2 Main Street Planning Strategy

This chapter introduces the Planning Strategy and design guidelines for the Corridor.

D2.1

The Combined Pedestrian Realm/ Mobility/ Land Development Concept Plan

The diagram on the facing page illustrates the combination of the Pedestrian Realm/Mobility Plan and the Development Concept Plan, which are described in detail in the sections that follow. The Urban Design Plan for the North Corridor illustrates broader elements of the Corridor that will eventually result in Transit Oriented Development and connections to the surrounding community.

Main Street is the location of the first seven miles of the Houston LRT system and the Plan illustrates this quite clearly. The Corridor passes through a number of different neighborhoods of different scales and characters. The impact of the Transit Street on adjacent neighborhoods is minimized because it runs through areas that are already urbanized and, in some cases, are single use areas such as the office areas downtown and the Medical Center area. Large, open parking lots and underdeveloped parcels of land characterize those areas that are not urbanized. As a result, the development- potential areas are relatively continuous throughout the Corridor. An important area of high development potential is the Midtown area. It has already seen some new pedestrian-friendly mixed use development occur. The areas of Midtown next to transit are still not fully developed, and the plan suggests that the pedestrian scaled streetscape elements be provided as soon as possible to enhance the development activity in the area, and to set the standard for the pedestrian realm. The objective of the plan for this Corridor is to establish an urban pedestrian-friendly condition that attracts riders to the transit line and allows for easy connections to the stations from a five-minute walking distance.

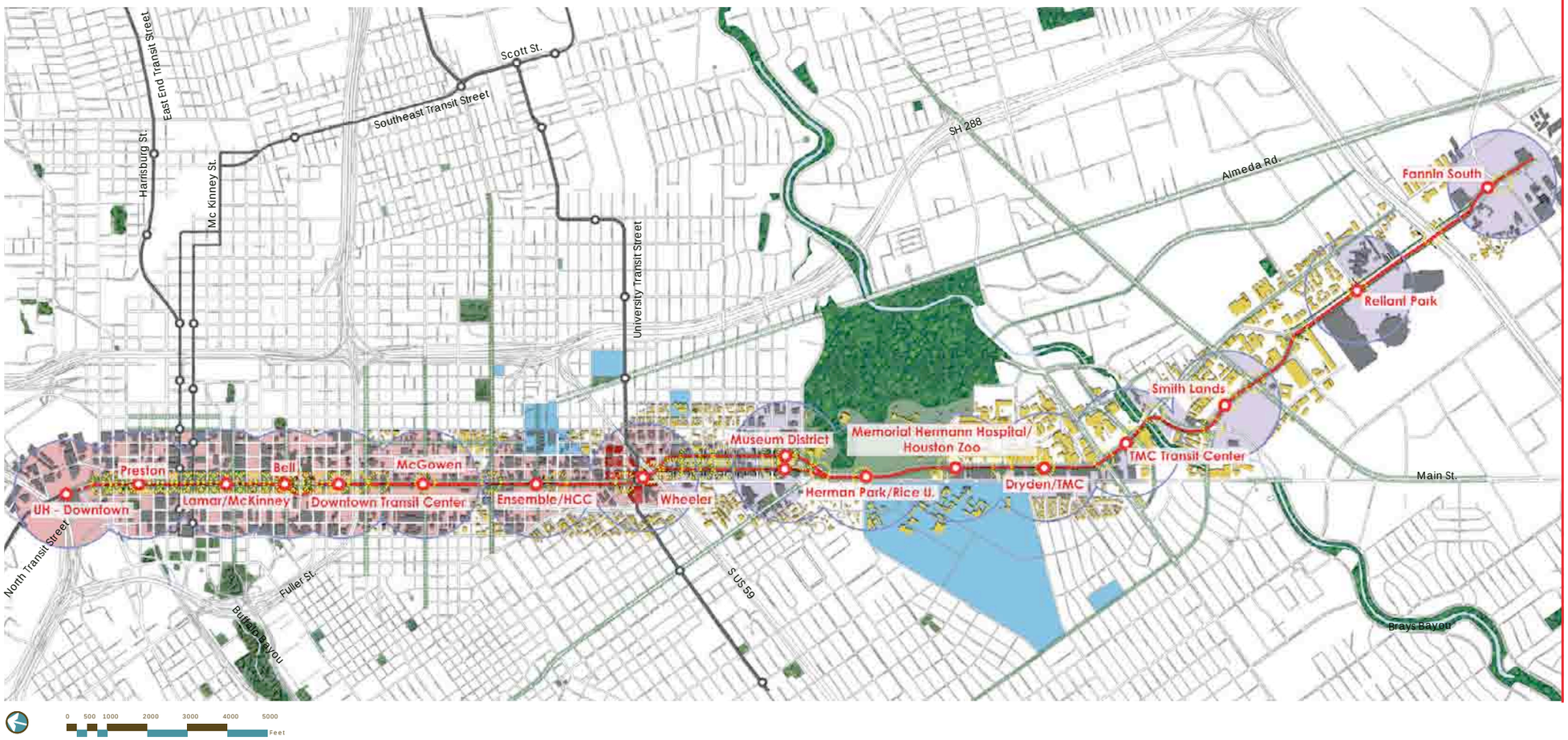
The Main Street Corridor encompasses a number of buildings of historic value. These should be seen as opportunities for development using these structures to establish a link to Houston's past. A good example is the Sears Store at Wheeler Station, which could be used as the framework for redeveloping the entire block, while preserving this important historic link.

The Plan indicates a number of connections from the adjacent areas to the Transit Stations. These Corridors have been identified as primary streets and walkways for upgraded landscape where it doesn't exist, as well as for increased sidewalks and cycling amenities.

Pedestrian Realm/Mobility/Development Concept Plan

Main Street

- Stable Area
- Development Opportunity Area 1 - Corridor
- Development Opportunity Area 2 - Downtown
- Park
- School
- Existing Pedestrian Crossings
- Link Streets
- Demonstration Plans
- Built Form Edge
- Stations
- Proposed Pedestrian Crossing



D2.2

Pedestrian Realm/ Mobility Plan

The Pedestrian Realm/Mobility Plan illustrates recommendations to improve and enhance the pedestrian realm and mobility conditions within the Main Street Corridor. The goal of these recommendations is to provide a safe, vibrant, attractive and highly functional pedestrian experience along the Main Street Corridor Transit Line (Main Street, Fannin, San Jacinto) adjacent to proposed Transit Stations/Transit Centers and along key connecting streets.

Beautiful, tree-lined, pedestrian focused streets are the framework of the Pedestrian Realm/Mobility Plan. Collector streets comprise a large percentage of public space and as such must be enhanced and treated as important public places. When streets function well, they are lively places where cafes, corner flower shops, public art and gardens create vibrant outdoor rooms. They are the place where the eyes of the community view the activities of the street and serve as frontage for developments.

Foremost, the undeveloped areas of the Main Street Transit Line Streets are recommended for substantial pedestrian realm enhancements: Main, Fannin and San Jacinto.

Segments of key intersection streets connecting the Main Street transit line to area pedestrian destinations described above are recommended for pedestrian realm enhancements are detailed on the Plan.

Streetscape enhancements should include street tree plantings with the ambition to create a continuous pedestrian canopy. Street trees will clearly identify the important circulation streets and will provide shade to clear, wide, continuous sidewalks extending from back of curb to building fronts along the Transit Line and connecting streets. In addition, pedestrian level lighting and street furnishings are appropriate on these streets.

Lighting along the Southeast Corridor Rail Line is recommended to be consolidated, if possible onto the catenary poles to be installed for the electrical service to the light rail cars. Both street lighting and pedestrian lighting can be attached to these catenary poles effectively. Consolidating lighting on these poles will avoid the visual clutter and expense of multiple poles.

Special-needs enhancements to existing crosswalks should include audible and flashing LED systems throughout this heavily traveled Corridor.

The intent of the pedestrian oriented street hierarchy is to provide an integrated, multi-modal transportation network for all residents and businesses that is safe, convenient and efficient.

Current bike lanes serving the Main Street Corridor area should be connected to Transit Stations. These existing bike lanes are also recommended to be widened to AASHTO standards to improve their functionality and safety for bikers.

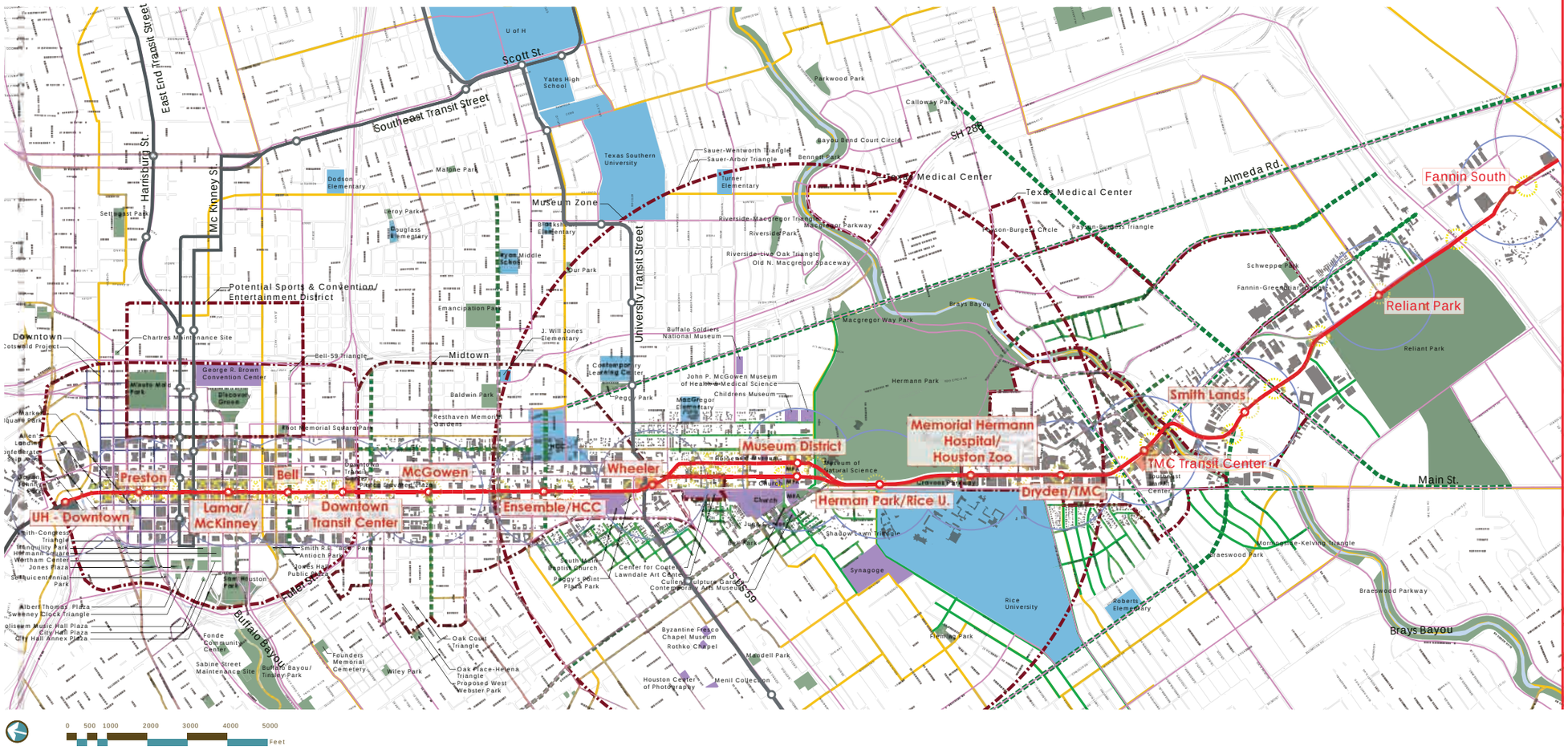
Bus lines should be connected to the proposed transit stations and transit centers with appropriate bus shelters provided.

Discovery Green and Hermann Park are ideally located on the Transit Corridor and provide key focal points and existing public spaces. These regional parks will continue to provide amenities for adjacent Transit Oriented Development.

Urban Squares are smaller scale publicly accessible open spaces that should be located in association with Transit Oriented Development. These small plazas are more urban in nature and do not include active/sports facilities. Urban Squares are generally accessible to public use, often privately owned and may be gated or well lit for night security. These squares are primarily paved, with planting areas, shade trees, planters, public art, fountains and seating for passive, outdoor enjoyment.

Main Street Pedestrian Realm/Mobility Plan

- Bayou
- Schools
- Open Space
- Cemetery
- Institutional Buildings
- Metro Transit Center
- Trail/Bikeway
- Tree Lined Streets
- Bus Routes
- Existing Pedestrian (Signalized) Crossing
- MT
- Major Thoroughfare per COH Major Thoroughfare Plan 2006
- 5 Minute Walking Distance to Station
- Building Footprint
- Proposed Pedestrian (Unsignalized) Crossing
- Proposed Open Space
- Proposed Trail/Bikeway
- Streetscape Enhancement (Pedestrian Connector Street)
- Main Street Transit Street
- Connecting Transit Street
- District



D2.3

Land Development Concept Plan

The Land Development Concept Plan divides the Main Street Corridor into three categories based on their development potential:

Development Opportunity Area 1 - Corridor

The Development Opportunity Area 1 is concentrated at a few key locations along the Main Street Corridor, including: the area between the Wheeler Station and the Museum District Stations, including the Museum District itself which consists of a number of smaller vacant or underutilized parcels that are potentially suitable for future Transit Oriented Development infill projects; lands within the Texas Medical Center between Fannin Street and Main Street from the Memorial Hermann Hospital/Houston Station to the TMC Transit Center which may redevelop over the long term as the Medical Center continues to evolve; and, extensive areas within a !/4 mile of the of the Smith Lands, Reliant Park and Fannin South Stations which include significant vacant or underutilized parcels appropriate for future larger scale developments.

Development Opportunity Area 2 - Downtown

The downtown is likely to experience large-scale redevelopment activity as a result of the planned transit facilities and proximity to the city center. It includes existing employment, office and commercial uses – uses that are typically subject to more frequent redevelopment. The downtown also includes vacant and underdeveloped lands within the 1/4 mile station radius where Transit Oriented Development is most probable.

Stable Areas Stable Areas are comprised of the predominately residential neighborhoods, parks and the major university campus within the Main Street Corridor Study Area. Stable Areas are those areas that are not likely to experience large-scale redevelopment activity as a result of the planned Urban Corridor. Areas designated as Stable include existing residential neighborhoods, parks and open space as well as significant institutional uses both within and outside of the 1/4 mile stations radius.

D2.3.1 Demonstration Plans

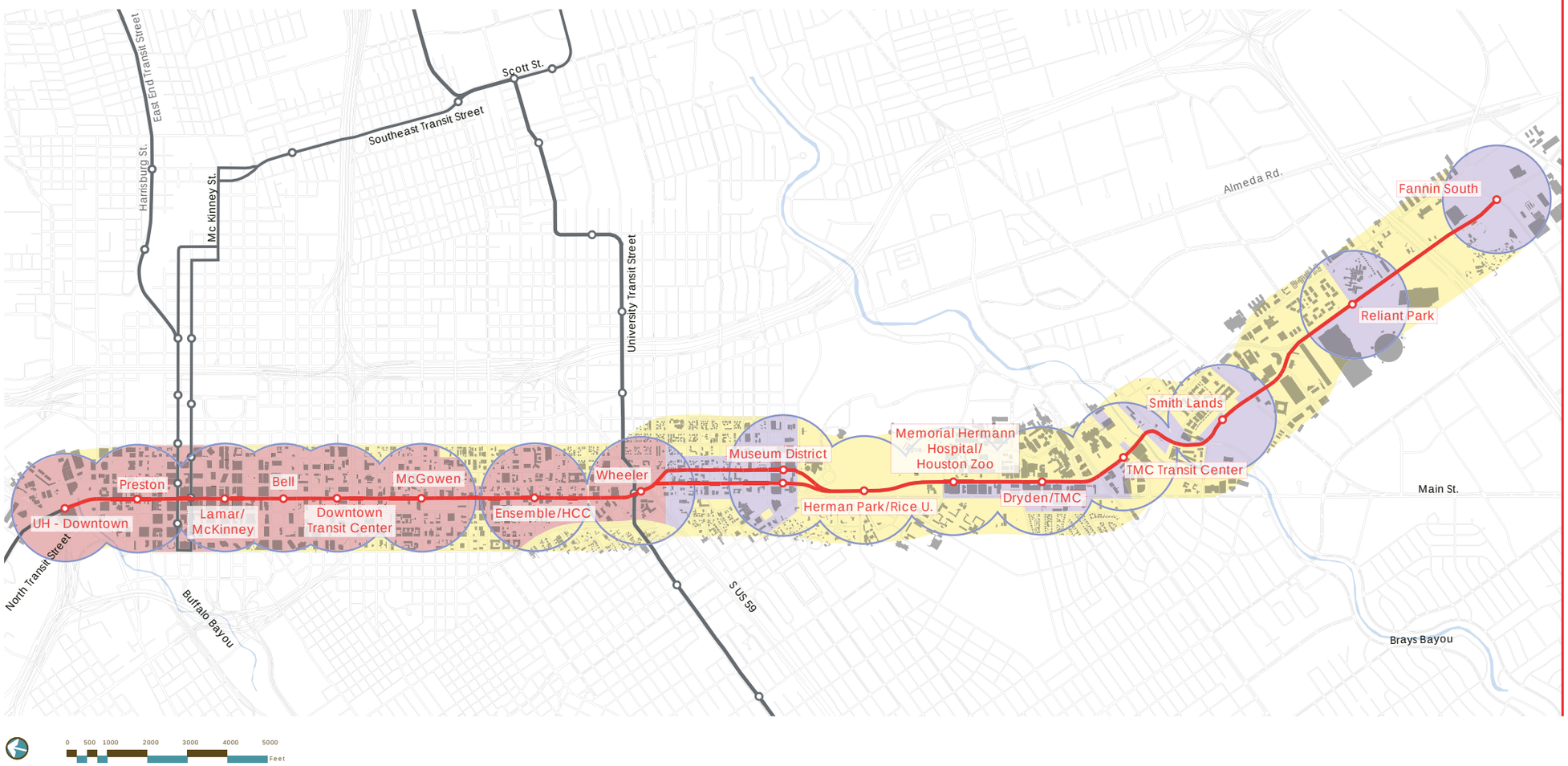
Two Demonstration Plans for prototypical sites were prepared to demonstrate conceptually how Transit Oriented Development could manifest itself given the context and condition of the Main Street Corridor.

The following diagrams provide a collection of images, including a site plan, photographs of development precedents and photo simulations of large lot redevelopment, a large lot with minimum frontage on the Transit Line and a large through lot.

Land Development Concept/Infrastructure Plan

Main Street

Main Street Transit Street
Connecting Transit Street
5 Minute Walking Distance to Station
Development Opportunity Area 1 - Corridor
Development Opportunity Area 2 - Downtown
Stable Areas



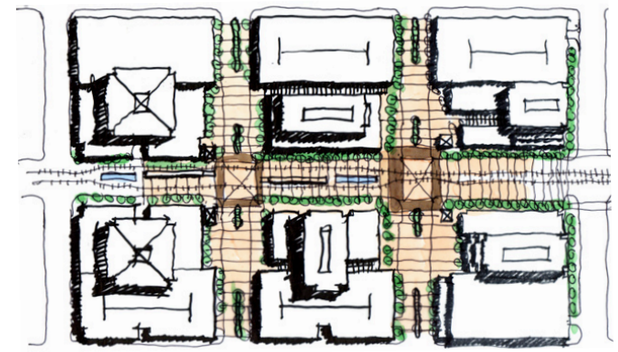
1 Large Through-Lot

Main Street from Clay Street to Pease Street, including the Bell Street Station.

This site is located on the east side of Travis Street and is an example of large through-lot development.

Existing site conditions

Location of site in Corridor



Demonstration Plan created during the workshop

Site Characteristic

- The site comprises approximately 526,464 sf of area (12 acres);
- the site has 886 linear feet on Main Street; and,
- the area surrounding the site is a mix of high rise, multi-level, mixed use buildings, with surface parking.

The Program

- The program for the site is a development with six towers, including residential, office and hotel uses over retail and rear structured parking.

The Design Solution

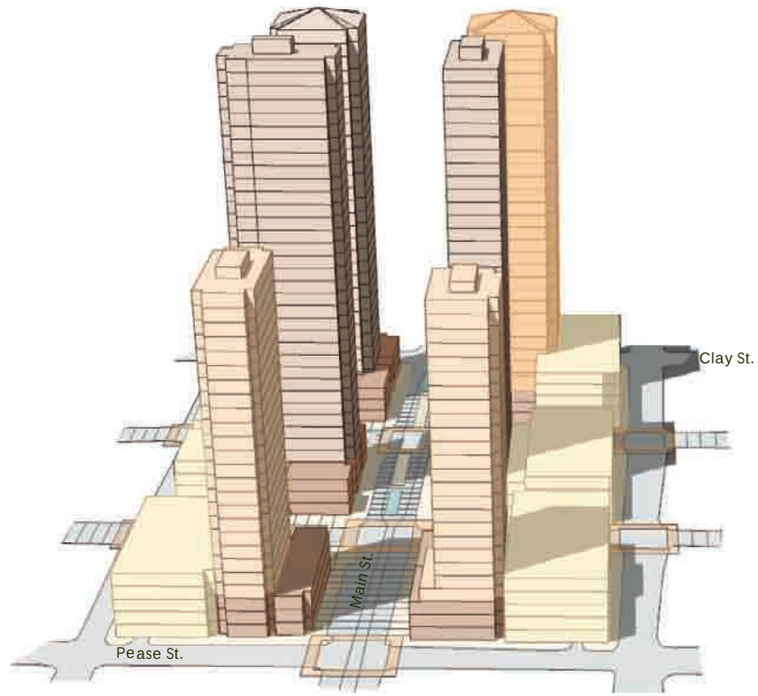
- A range of 25-35 story buildings along Main Street; and,
- accommodate parking to the rear of the site with five story structured parking buildings, and,
- retail facing Transit Street establishes a pedestrian friendly condition.

The Results

- 886 linear feet of frontage on the Transit Corridor;
- 112,500 hotel;
- 885,844 office;
- 329,427 sf of retail;
- 569 apartments; and,
- Parking structures at 667,755 sf.

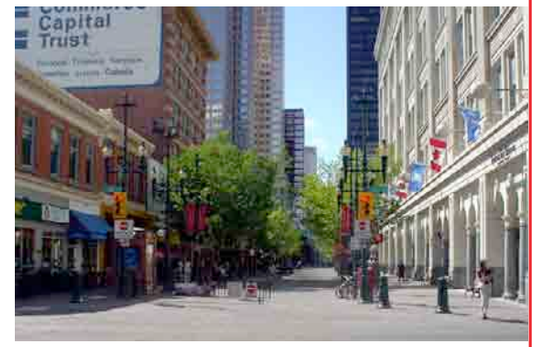
Demonstration Plan

Main Street



3D model of Demonstration Plan

Photomontage illustrating the potential enhanced streetscape and built form at Pease Street



Precedent - Residential, office and hotel uses over retail

Precedent - Link from main street to open space at rear of building

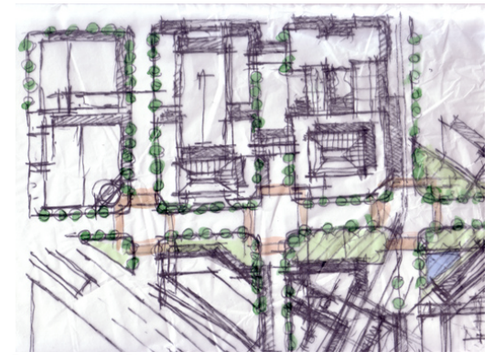
Precedent - three story residential units with retail at grade

2 Large Through-Lot

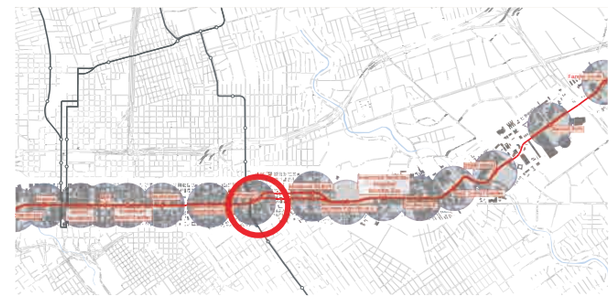
Main Street at Wheeler Street

Located by S US 59 Freeway, this site is an example of large through-lot development.

Existing Site Conditions



Demonstration Plan created during the workshop



Location of site in Corridor

Site Characteristic

- The site comprises approximately 1,122,716 sf of area (25.76 acres);
- the site has 1, 600 linear feet on Main Street and 1,445 linear feet on Wheeler Street;
- the area surrounding the site is primary residential, vacant land with some retail; The site is also the location of the historic Sears and a inter-modal transit station; and,
- the existing Wheeler station is on the site and it is here where the University line will cross.

The Program

- A program for the site contains a mix of transit supportive office and multi-family residential over retail and structured parking. The objective for the site is to create a major node of development at this important site.

The Design Solution

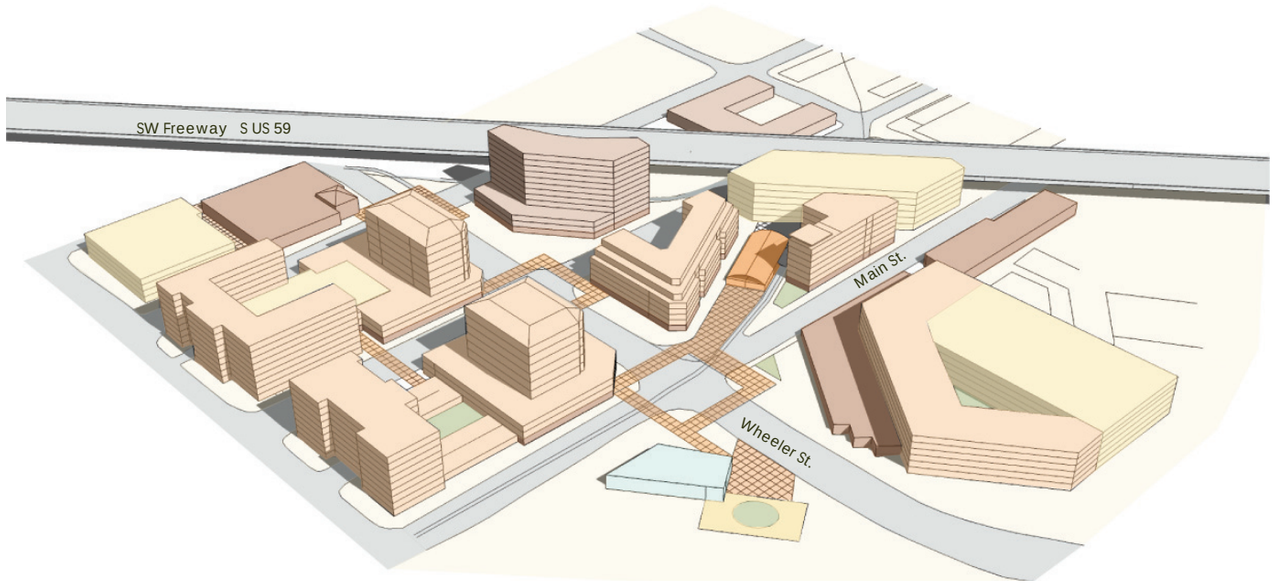
- A site plan including four mixed use multifamily blocks and one office block serving the inter-modal transit station. The station will be an important transit focus for the city.

The Results

- 1,600 linear feet of frontage on the Transit Corridor;
- 222,609 sf office;
- 215,959 sf of retail;
- 1,202 apartments; and,
- parking structures at 212,124 sf.

Demonstration Plan

Main Street



3D model of demonstration plan

Photomontage illustrating the potential enhanced streetscape and built form at Main Street and Wheeler

Precedent - Transit station surrounded by range of uses

Precedent - Mid rise residential structures

Precedent - Retail facing street creates a pedestrian friendly condition

D2.3.2 Development Analysis

The following analysis is intended to test underlying development economics in the Main Street Corridor market context. A development proforma is generic in nature and not intended to represent specific site feasibilities. The form and scale of development, (a high rise residential condominium) is indicative of the type of residential transit-oriented development one would expect could expand over time in this area, particularly with the proposed public transit enhancements. As well, office demand could be expected to grow with the provision of improved transit services, with new office tower construction attracted to the area, which is already an established office submarket.

Development Scenario 1 High Rise Residential Condominium Project

Description of Development

A generic development proforma was prepared for a 200-unit, 20-story (excluding structured parking) condominium apartment project. There is an equal mix of one-bedroom units (average 900 sf) and two-bedroom or two-bedroom+ units (average 1,500 sf), for an overall unit size average of 1,200 sf. The assumed site measures 1 acre (5.5 times site coverage), with a ratio of 1.25 parking stalls per unit. The total development time horizon is 36 months from land acquisition to full occupancy. The proforma details are summarized on the following page.

Comparable Properties and Market Parameters

Two existing high rise apartment projects with units for resale were identified near the proposed Hermann Park and Dryden transit stops in the Main Corridor area; one at 1400 Hermann Drive, the other, known as The Spire, at 2001 Holcombe Boulevard.

The Hermann Drive building had a 1,728 sf unit [2 bedrooms] with an asking price of $299,900, while a 1,310 sf unit [2 bedrooms] at The Spire had an asking price of $279,900. These prices equate to roughly $174 psf and $214 psf, respectively.

In addition to resale product, there are several new mid and high-rise projects currently being constructed throughout the Medical District and in proximity to the Main Street Corridor. By early 2008 over 900 condominium/apartment units (which have already begun construction and are listed for sale) will have completed construction. Each of these projects are within a 1.5 mile radius of Hermann Park and no farther than 3/4 of a mile from Main Street. Notably, Mosaic at Hermann Park is a high-rise condominium building with two towers totaling 788 units. Mosaic is located at on the eastern side of Hermann Park, at 5925 Ameda Road. Other projects of note include: 5001 Fannin, The Collective at Baldwin Park, and Serento, with Serento's high-end units being listed at prices of around $265 psf. Overall, new condominium pricing appears to range from $200 to $300 psf across the market, depending upon location and building quality/finish.

As outlined in the Corridor overview above, and based upon MLS data from the Houston Association of Realtors, the average resale townhouse/condominium price in the MLS District 17 corresponding most closely with the Main Street Corridor was in the range of $193,000 in 2007. Notably, the average resale single family house price approached $675,000 in 2007 – up sharply from around $618,000 one year earlier. This pricing structure indicates the rationale for continued condominium construction as a means to supply new housing for this local market.

Proforma Results

Understandably, the economic price required to justify new construction of condominium apartments in this area is within the range of current pricing at comparable projects, and at a premium to resale product of similar character. The development proforma presented below suggests a required sale price of around $279,000, or $232 psf. There is, of course, the possibility of upgrading or downgrading the quality of building finish to appeal to a certain target market, depending upon the depth of demand.

Some observations regarding the proforma for this type of project include the following:

- Hard construction costs (including parking) represent just over 70% of total project costs. The cost of parking accounts for roughly 6% of the total end unit price.
- Total land costs represent roughly 16% of the end unit price – this assumes land values of roughly $6.5 million per acre ($27 per sf buildable) plus some carrying costs. Notably, this development is denser than many currently in the market, and has smaller

Economic Rent/Price Calculation- High Rise Residential Condominiums

Main Street

unit sizes (particularly in comparison to some resale units in older, established buildings) in order to test the viability/benefit of such a scenario.

- A developer needs to profit from any development at a rate consistent with the risk. Taking into account total project costs of approximately $51 million and assuming a 10% profit margin on the total project (higher when leveraged equity is considered), the required average sale price per unit is $279,000 – translating to $232 per sf.

A key consideration regarding the market feasibility for this type of development project is the potential demand generated by proximity to the enhanced transit Corridor. There are clearly a number of cost-competitive housing options in this area, including significant condominium supply at varying price points, both new and resale. The ability to reduce car ownership may also assist with affordability if efficient public transit can be utilized.

Assumptions

Timing Assumption		
Land Acquisition	01-Jan-08	
Planning Period	6	months
Construction Commencement	03-Jul-08	
Construction Period	24	months
Substantial Completion	01-Jul-10	
Cost of Vacancy Period	6	months
Full Lease-Up	31-Dec-10	
Total Development Period	36	months
Interest Rate		
Interim Financing	6.00%	
Building Areas		
Number of Units	200	
Number of Buildings	1	
Average Unit Size	1,200	sq.ft.
Number of Storeys	20	
Floor Plate	12,000	sq.ft.
Gross Building Area	240,000	sq.ft.
Site Coverage	5.51	times
Land Area	1.00	acres

Residential Units	G.B.A.	Avg. Size	G.F.A.	G.L.A.	
1 Bedroom	50%	900	90,000	83,700	
2 Bedroom +	50%	1,500	150,000	150,000	
TOTAL	100%	1,200	240,000	233,700	sq.ft.

Parking Ratio	
1.25 stalls per residential unit	250 stalls

Project Costs

	$ 000's	PSF
Land		
Purchase Price	$6,534	$27.23
Additional Land Costs	$327	$1.36
Land Carrying Costs	$1,029	$4.29
TOTAL	$7,890	$32.87
Construction & Fringe		
Hard Construction Costs	$32,846	$136.86
Parking	$3,250	$13.54
Architect. & Engineer.	$1,985	$8.27
Site Improvements	$131	$0.54
Const. Contingency	$1,805	$7.52
Municipal Fees	$232	$0.97
Development Interest	$483	$2.01
TOTAL	$40,731	$169.71
Sales & Marketing		
Sales Commissions	$1,584	$6.60
Marketing & Advertising	$500	$2.08
TOTAL	$2,084	$8.68
TOTAL PROJECT COSTS	$50,705	$211.27

Required Price/Rent Calculations

Required Return on Investment	10%
Required Average Sale Price	$232.40 PSF

Development Scenario 2
High Rise Office Project

Description of Development

A generic development proforma was prepared for a 25-story, 500,000 sf office building with ground floor retail space. The land area of the site measures 2 acres, and there is a parking ratio of 2.5 stalls per 1,000 sf. The envisioned development time horizon is 45 months from land acquisition to full occupancy, including 30 months of construction. The proforma details are summarized on the following page.

Comparable Properties

There is presently one office building under construction in the Central Business District, a nine story building measuring 207,000 sf [known as Pavilions Tower]. The reported asking net rent for space in this building is $25.00 psf (at 2007 Q3). There are also three buildings proposed ranging in size from 580,000 sf to 1 million sf, with reported asking rental rates of roughly $30.00 to $34.00 psf (no pre-leasing is reported in these three projects as at 2007 Q3).

At 2007 Q4 in the CBD submarket, the average asking Class-A gross rental rate was approximately $36.50 psf ($24.50 net psf plus $12.00 psf additional rent), indicating roughly an $11.50 psf spread up to the $25.00 psf being quoted in 2007 Q3 at Pavilions Tower and up to a $13.00 psf spread to the buildings proposed. Of course, new buildings would command a market rate at the top of the rental rate spectrum given their age, quality of building finishes, and other factors. Additionally, asking rates for new product will move upward in tandem with overall market dynamics, and may differ substantially by the issued date of this document.

Rising construction costs have obviously impacted the viability of new office construction in the CBD, despite improving market conditions and rising rental rates. This is evident in the rental rate spread between Pavilions Tower, which is under construction, and the required rental rates for the three proposed buildings.

Proforma Results

The development proforma suggests a required net rental rate in the range of $28.00 psf to economically support new construction. This is slightly above the asking rate for Pavilions Tower (which likely has lower contractually secured construction cost guarantees), but remains less than rates quoted for the other proposed projects. Notably, the three proposed projects are slightly or considerably larger than the proforma office building, which totals 500,000 sf, and the building character and appearance of these proposed buildings have not been taken into account.

Some observations regarding the proforma for this type of project include the following:

- Hard construction costs (including structured parking) represent 66% of total project costs. These costs are projected, and would vary depending on the ultimate class/caliber of the building design and architectural features.
- As specified in the proforma, land costs represent roughly 12% of total project cost. Again, land costs may vary widely depending on location within the Main Street Corridor, but have a relatively limited impact on project costs compared to hard construction costs.
- Understandably, a developer needs to profit from any development at a rate consistent with the risk. The proforma takes into account total project costs of approximately $140 million ($280 psf) and assumes a 10% profit margin on the total project (higher when leveraged equity is considered).

Economic Rent Calculation - High Rise Offices

Main Street

Assumptions

Timing Assumtions

Land Acquisition	01-Jan-08	
Planning Period	6	months
Construction Commencement	03-Jul-08	
Construction Period	30	months
Substantial Completion	31-Dec-10	
Cost of Vacancy Period	9	months
Full Lease-Up	30-Sep-11	
Total Development Period	45	months

Interest Rate

Interim Financing	6.00%

Building Areas

Number of Buildings	1	
Number of Storeys	25	
Floor Plate	20,000	sq.ft.
Gross Building Area	500,000	sq.ft.
Site Coverage	5.74	times
Land Area	2.00	acres

	G.B.A.	G.F.A.		G.L.A.	
Office	96%	480,000		446,400	
Retail	4%	20,000		18,600	
Other	0%	0		0	
TOTAL	100%	500,000	sq. ft.	465,000	sq.ft.

Parking Ratio

2.5	stalls per	1,000	sq. ft. of G.F.A.	1,250 stalls

Project Costs

	$ 000's	PSF
Land		
Purchase Price	$13,068	$26.14
Additional Land Costs	$653	$1.31
Land Carrying Costs	$2,470	$4.94
TOTAL	$16,191	$32.38
Construction & Fringe		
Hard Construction Costs	$76,718	$153.44
Parking	$16,250	$32.50
Architect. & Engineer.	$5,113	$10.23
Site Improvements	$261	$0.52
Const. Contingency	$4,648	$9.30
Municipal Fees	$130	$0.26
Development Interest	$6,187	$12.37
TOTAL	$109,309	$218.62
Cost of Vacancy	$1,031	$2.06
Deferred		
Tenant Allowances	$10,000	$20.00
Leasing Costs	$2,000	$4.00
Financing Costs	$1,485	$2.97
TOTAL	$13,485	$26.97
TOTAL PROJECT COSTS	$140,016	$280.03

Required Price/Rent Calculations

Required Return on Investment	10%	
Required Face Rent	$28.00	PSF
Required Net Effective Rent (1)	$25.92	PSF

Conclusions Regarding Development Analysis

The above proforma – Development Scenario 1: High Rise Residential Condominium Project – demonstrates the required sales price for a new high density condominium development. When assessing this development proforma, it is important to note it reflects new building costs which generally exceed market affordability for many area residents, although it would certainly be expected that such a development would draw upon a broad population base of Houston residents that would consider relocating to a more downtown environment.

The average resale condominium price in the Main Street Corridor area was approximately $193,000 based upon sales activity data provided by the Houston Association of Realtors, while the proforma above generates a required sale price of around $278,400 (for 1,200 sf at $232 psf). With a median household income of roughly $43,500 across the Main Street Corridor, the affordable house price, at the median, is roughly $169,500, and the affordable monthly housing rent is $1,160 – substantially below the baseline prices required to justify new construction. A household income of over $71,500 is required to afford the condominium unit described in the proforma, and nearly 30% of area households meet this threshold. The affordability model incorporates a 6% interest rate, 30 year amortization, 20% down payment, and a calculation of monthly principal, interest and taxes, with the assumption that 32% of gross monthly income can be dedicated to housing costs.

In order to facilitate more rapid development of higher density development along this Corridor, considerable "assistance" might have to be considered – perhaps in the form of financial subsidies for development in terms of reduced building permit fees for certain development density thresholds.

Although it is not explicitly examined in the proforma here, the availability of quality public schooling is obviously an important criterion within the city for attracting families to higher density forms of housing in established central areas.

In examining Development Scenario 2: High Rise Office Project, it is clear that market dynamics such as changing leasing demand, vacancy rates, rental rates and the availability and suitability of large blocks of office space for major users are all elements that much be taken into consideration in weighing the merits of new development. Commercial office developments differ from residential projects in that generally a substantial portion of space must be committed to by a tenant or tenants before a project can commence; one or two large tenants can drive new office development, while numerous prospective condominium owners need to sign purchase agreements to kick-start a residential development.

The analysis presented herein describes generic development proformas. These models neither specifically reflect existing land parcels, nor the timing of an anticipated project. Additionally, they do not attempt to portray the transit-supportive design standards discussed in earlier sections of this report. Rather, the proformas are intended to illustrate the feasibility of new construction given existing market conditions.

Cost of factors such as wider sidewalk allowances, an increased urban/civic space requirement, specific building design standards and other considerations are generally more than offset by the savings achieved through the required provision of fewer parking spaces. In conclusion, transit-oriented development policies themselves are not a financial obstacle to new construction.

D2.4

Infrastructure Overview

Based on the research of the existing Main Street Corridor Infrastructure, it appears that a number of water mains along the Corridor are at the end of their lifespan. Additionally, the dates of construction of the sanitary sewer lines suggests that there are segments along the Corridor that have also likely reached the end of their life span.

Given that the Corridor is a mix of higher density office, commercial, institutional and residential uses, continued monitoring and assessment of infrastructure capacity is recommended as redevelopment along the Corridor proceeds.

It is hoped that a standard for lighting the streets and the pedestrian realm will be implemented throughout all of the Corridors as the lines are being built.

D2.5

Design Guidelines for TOD

Introduction

The successful realization of the Urban Corridor Plan requires that the guidelines for new development outlined in this chapter form the basis of the City's new planning regime for Transit Oriented Development. The guidelines clarify the City's expectations and provide the framework for the coordinated and consistent review and evaluation of applications for Transit Oriented Development within the Main Street Corridor.

The guidelines correspond with the Development Opportunity Areas as delineated by the Land Development Concept Plan and provide a series of mandatory requirements and optional guidelines for the design of pedestrian realm; buildings; parking, access and service facilities; and, engineering/infrastructure standards.

The following describes the overarching principles and objectives that form the basis of the guidelines in each of the Development Opportunity Areas:

Streetscapes/Pedestrian Realm

The guidelines for streetscapes are complex and include provisions for the pedestrian realm, which may include public and private lands, and is comprised of sidewalks, publicly accessible and visible open spaces, as well as the paved component of the street (the area between the curbs), including the portion that accommodates the transit facility, and other streets that are important to feed the transit system. In addition, public parks in proximity to the transit facilities require additional attention as key components of the pedestrian realm.

Buildings

The guidelines for buildings include all forms of development on lands considered to comprise the "private realm". The guidelines include provisions for the transition between development within the identified Development Opportunity Areas and the Stable Areas.

Parking, Access and Service Facilities

Parking, access and service facilities have been identified as a vital issue in establishing an urban environment and visually pleasing streetscapes in conjunction with Transit Oriented Development. In addition, parking is a crucial element in influencing the cost of Transit Oriented Development. Urban development typically requires less parking than suburban forms of development, and also provides opportunities for shared parking. Higher density built form demands parking in structure.

Engineering

One of the primary objectives of the Urban Corridor Plan is to develop a comprehensive approach to development. An important component of that process is to standardize the implementation of engineering design standards.

Development Opportunity Area 1- Corridor

Mandatory

D2.5.1
Development Opportunity Area 1 Corridor

Guidelines within the Development Opportunity Area 1- Corridor include a combination of mandatory development requirements, optional design guides and optional performance standards that, if achieved, make a particular development eligible for a series of additional performance benefits.

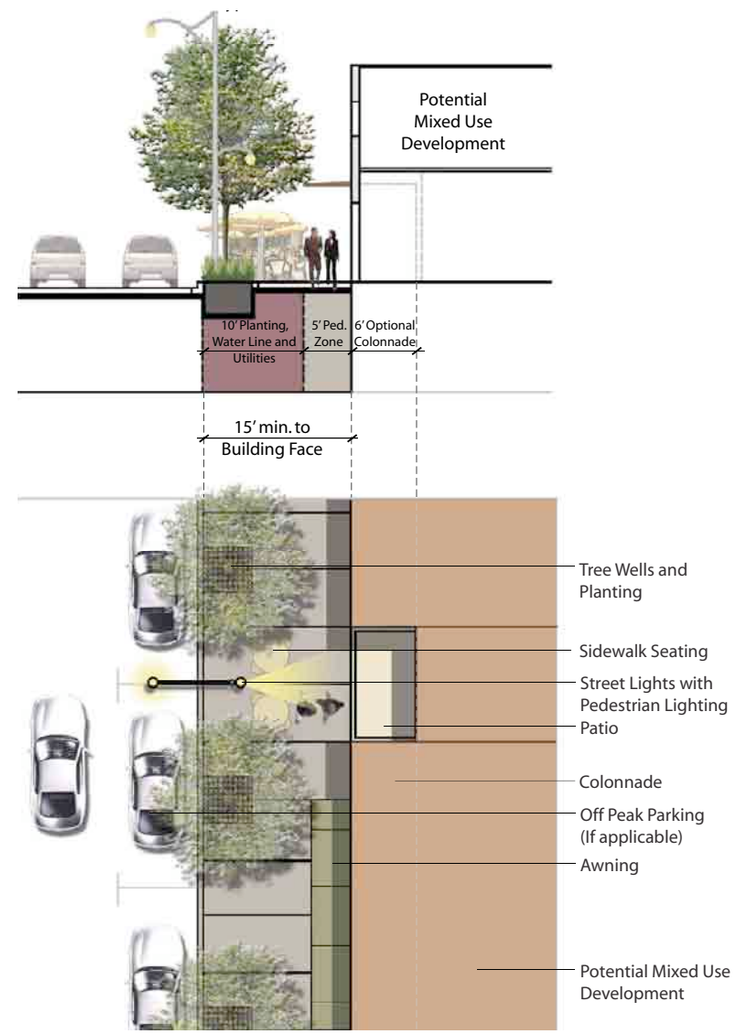
Mandatory

Mandatory Development Requirements within the defined Development Opportunity Area 1.

Statement of Application: Applies on sites that abut the Transit Street and are within 1/4 mile of a transit station

Pedestrian Realm

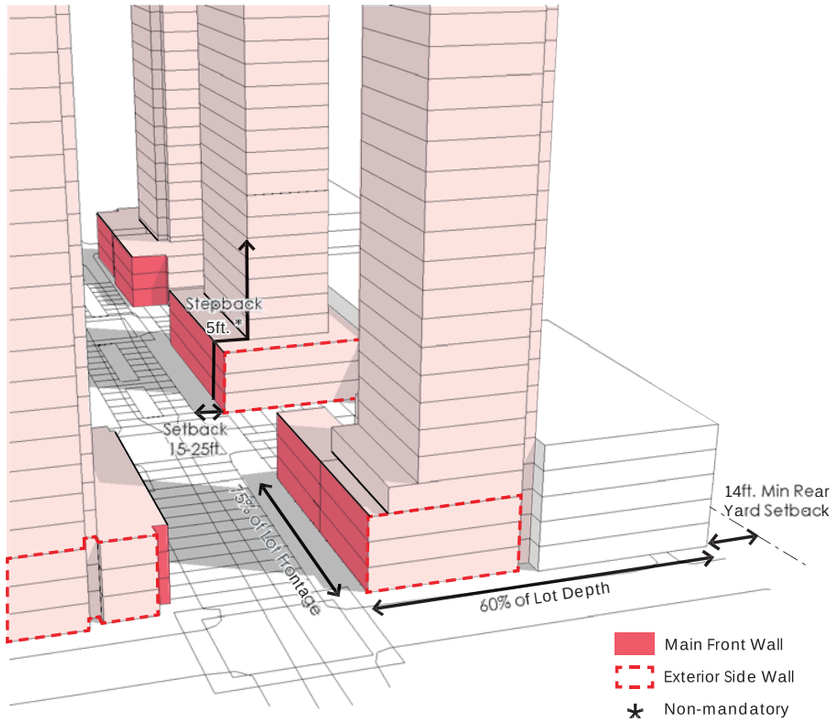
1. All buildings, with the exception of street facing townhouse units, shall be developed with a substantial portion of their front and exterior side façades between 15 and 25' of the back-of-curb. It is understood that where a parcel has three sides abutting a public street, the build-within concept may not be achieved on the third side.
2. Street facing townhouses with no street facing garage shall ensure that the main front wall of the unit be built within 15 and 30' of the back-of-curb.
3. Where front garages are proposed, the main front wall of the building shall be built within 20 and 40' of the back of the curb.
4. The exterior side build-within zone for street townhouses shall be between 15 and 30' of the back edge of the curb.
5. In locations where the public street right-of-way is equal to, or greater than the required 15', the build-within zone shall be established from the edge of the street right-of-way and shall be between 0 and 10'.
6. On corner parcels, the exterior side yard shall also include a build-within zone located between 15 and 25' from the back edge of the curb, and the main exterior side wall shall occupy a minimum of 60% of the depth of the parcel, within the build-within zone. On shallow lots, the City may consider, on a site-by-site basis, an allowance for a rear driveway.
7. In all Transit Street Configurations, 15' from the back-of-curb is required for the pedestrian realm.
8. Where the rear yard or interior side yard of a Transit Oriented Development site abuts a single detached house, an angular plane shall be implemented to control the height of the building. The angular plane shall be established as follows:
   - a TOD site will be evaluated according to an analysis of adjacency and proximity to a threshold level of existing single-family detached homes, Transit Street frontage, deed restrictions, and other non-discretionary factors. If the site falls within certain criteria, an angular plane determined from a line corresponding to a certain number of feet above grade from the parcel line(s) abutting the single family properties and extending at a certain angle into the subject property from this above-grade line shall establish the maximum height of buildings on the subject site.
9. All residential buildings with direct access to dwelling units from the street, shall be elevated a minimum of 2' 6" to provide privacy and a sense of entry to

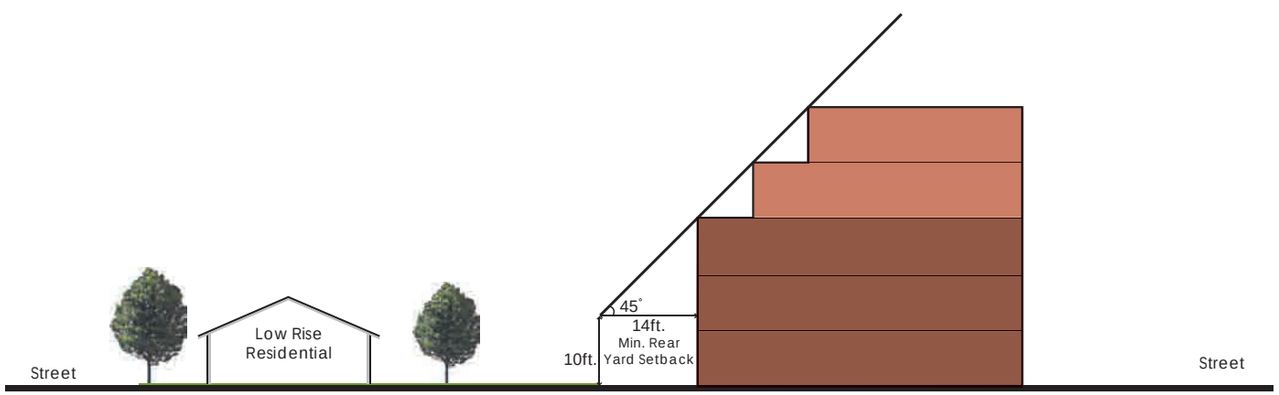


Typical pedestrian realm Section

Mandatory

DOA 1 - Corridor





Angular Plane

the unit. The maximum elevation from grade to the entrance landing shall be 5'.

10. On all lands fronting onto a public street, a Major Thoroughfare and/or a Major Collector, the minimum built frontage requirement shall be 75% of the parcel frontage and shall be occupied by the main front wall of a building within the build-within zone.

11. Notwithstanding the requirements for a minimum built frontage, where a publicly accessible and usable open space is provided abutting a front and/or exterior side parcel line, the frontage occupied by the publicly accessible and usable open space shall be counted toward the minimum built frontage requirement.

12. A minimum of 75% of the main front wall shall be at grade and, on a corner parcel, an exterior side wall at grade of any non-residential building shall consist of windows and entranceways that facilitate visibility into the building.

13. The City shall not accept cash-in-lieu of required street trees, unless a substantiated technical reason is provided that precludes street tree planting. Where cash-in-lieu of street trees is accepted, the monies received shall be utilized in coordination with the Parks and Recreation Master Plan to enhance tree cover in a local public park, or along the Transit Street within 1/4 of a mile of the development site from which the cash-in-lieu of street trees was accepted.

DOA 1 - Performance Standards

Non-Mandatory

Non-Mandatory

Non-Mandatory Development Requirements within the defined Development Opportunity Area 1.

Performance Standards

Statement of Application: Optional Performance Standards apply on sites within ¼ mile of a transit station. Developments that achieve all of Performance Standards will be eligible to utilize Performance Benefits as defined.

Development Blocks

14. For all large scale Transit Oriented Development projects (defined as projects on development blocks or parcels that are greater than 5 acres in size), the maximum development block or parcel size shall be approximately 5 acres in area. In all cases, there shall be no minimum development block or parcel area.

15. No development block or parcel frontage on a street shall exceed 600'. In all cases, the minimum development block or parcel frontage shall be 25'.

16. Large scale Transit Oriented Development projects shall provide public streets, or publicly accessible private streets, to subdivide any development block or parcel greater than 5 acres in size into smaller development blocks or parcels in accordance with this policy.

Buildings

17. The minimum density for any Transit Oriented Development project shall be a Floor Area Ratio of 1.00.

18. There shall be no specified maximum density.

19. The minimum height for any Transit Oriented Development building shall be two stories, or 18', whichever is greater. Buildings on corner sites shall be a minimum of three stories, or 27', whichever is greater.

20. There shall be no specific height limit.

21. Where any Transit Oriented Development building abuts a street, the building height shall be established as follows:

    - the main front wall and/or exterior side wall shall be permitted up to three stories (or 27', whichever is greater) within the corresponding build-within zone; and,
    - for any main front wall and/or exterior side wall above three stories (or 27', whichever is greater), the building shall be stepped back from the main front wall and/or the exterior side wall of the base building by a minimum of 5'.

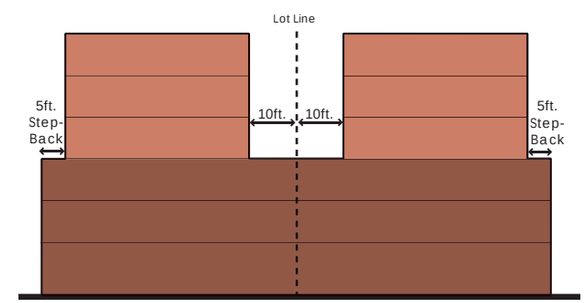
22. Buildings of up to three stories may be built with zero setbacks to interior side parcel lines. Exterior side yards shall conform to the described build-within zones.

23. Buildings above three stories may include a zero interior side yard setback for the base building of three stories, but building side walls must be set back a minimum of 10' from the interior side yards for that component of the building above three stories.

24. The City will encourage a transitional rear alley or easement process, coupled with access management from pedestrian and transit streets, on a block-by-block basis, where possible and appropriate.

Street Wall Building, Toronto, Canada

Streetscape/pedestrian realm, Bethesda, ML



Space between Buildings

Non-Mandatory

DOA 1 - Performance Benefits

Restaurant seating - Temporary encroachment, Bethesda, ML

Colonnade, South Lake, TX

Public parking garage in a private condominium, Toronto, Canada

Encroachments

25. Permanent encroachments shall be considered for permitting on a site-by-site basis, subject to design performance standards (to be developed) that consider such features as shade / weather protection, pedestrian clear zone width, space for street tree canopy, right-of-way proportions, utility clearances, etc.

26. The amount of any permitted encroachment shall be established by the City on a site-by-site basis, and in consideration of the following criteria: the encroachment enhances pedestrian comfort by providing shade and/or protection from the rain; and, the encroachment does not impede pedestrian movement, and maintains an unobstructed sidewalk area of a minimum width of 5'.

Parking

27. General public parking (surface lots and / or structured parking facilities) to serve TOD areas will be provided to augment the supply of parking.

28. On-street parking shall be promoted within all of the Urban Corridors.

29. The City shall pursue opportunities for the establishment of on-street parking in partnership with adjacent landowners where the spaces are provided on a combination of public land and private property, with public access to the parking spaces secured through agreements with the City.

30. Surface parking, loading areas, drive-through lanes and servicing facilities shall not be permitted in front of Transit Oriented Development buildings. Surface parking, drive-through lanes and/or servicing facilities may be permitted in an interior side yards, and are permitted within the rear yard.

31. Surface parking, loading areas, drive-through lanes and servicing facilities, where permitted, shall be appropriately screened from view from the street. Surface parking lots shall respect the build-within zones. Where surface parking must be provided, the visual impact of large surface lots shall be mitigated by a combination of setbacks, and significant landscaping including: pavement treatments, low walls or decorative fencing, landscape, trees and lighting throughout parking lots and along the edges.

32. Parking is encouraged to be provided in structures, either above, or where possible, below grade. Where a parking structure is above grade, it shall include a façade with active uses at grade and appropriate architectural articulation. Entrances to below grade or structured parking and service areas should occur within the building.

33. Access to parking and servicing areas should occur off side streets or service lanes and to the side or rear of buildings, where possible.

34. It is an objective of the City to limit access driveways to individual sites adjacent to the Transit Street. The City shall encourage shared access driveways and, preferably, shared rear lane access for all Transit Oriented Development. Where new development is proposed, the City shall require a minimum of 100' between access driveways onto the Transit Streets.

Performance Benefits

Statement of Application: Performance Benefits are available to developments within ¼ mile of a transit station that achieve all of the Performance Standards and generate no undue adverse impacts on the stability of adjacent Stable Areas.

Parking

35. For all retail and service commercial uses, including restaurants - a minimum of 2.0 and a maximum of 4.0 spaces/1,000 sf of Gross Leaseable Floor Area; reductions in current parking standards to this minimum shall be graduated over time.

DOA 1 - Design Guidelines

Non-Mandatory

36. For hotels/inns - a minimum of 1.0 and a maximum of 1.25 spaces per room.

37. For all office uses - a minimum of 2.0 and a maximum of 3.0 spaces/1,000 sf of Gross Leaseable Floor Area.

38. For all condominium-based residential uses, a minimum of 1.0 and a maximum of 1.75 spaces per unit, inclusive of visitor parking.

39. For all fee simple residential uses – a minimum/maximum of 2.0 spaces per unit.

40. Where a public parking facility is developed, Transit Oriented Developments within 300' the City may reduce the minimum parking requirement, in recognition of the enhanced public parking supply. The reduction of the minimum parking requirement shall be determined by the City on a case-by-case basis.

41. Parking requirements for any individual development do not necessarily need to be provided on the same parcel, or on a parcel contiguous to the development. Required parking for any Transit Oriented Development may be provided on any parcel within 300' of the development that is being served by the parking facility.

42. Where a Transit Oriented Development is unable, or does not wish to provide all of the required parking spaces, the City may accept cash-in-lieu of the parking spaces. The minimum parking requirement shall be used to calculate any parking space deficiency. The cost of each parking space shall be established by the City, and may be waived for any specific development, at the discretion of the City. The funds raised through this provision shall be utilized by the City's Parking Authority solely for the purchase of property for public parking and/or the building of public parking structures in proximity to the Transit Street where the fees were collected.

Design Guidelines

Statement of Application: Non-mandatory development guidelines.

Pedestrian Realm

43. Buildings shall be connected to the street - by proximity, by the location of windows and entranceways, and the level of architectural detail.

44. Buildings shall be sited and organized to create a street space scaled to the pedestrian, and organized to present an appropriate façade to all adjacent streets to provide interest and comfort at ground level for pedestrians.

45. Main building entrances shall, wherever possible, be oriented toward adjacent streets to provide convenient access to pedestrians and public transit; buildings, and their main public entrances, shall be located close to the front and exterior side property lines, on-street parking, and the public sidewalk.

46. Buildings are to be generally sited parallel to the public street and along the edges of parks and open spaces. The public faces of these buildings are to align with neighboring buildings in a manner that defines these spaces with a consistent building face lining the street.

47. Non-residential buildings shall, to the greatest extent possible, front onto adjacent streets, be flush with grade and provide an active use at grade in order to promote pedestrian activity.

48. Buildings shall provide active façades that include windows and entry features and, where appropriate, outdoor cafés and restaurants, community services, retail stores and display windows.

49. Street tree planting should form a continuous canopy along the street. Tree species should be selected by the applicable TIRZ/MMD to reinforce the role of the various street hierarchies within the

Public parking garage, South Beach, FL

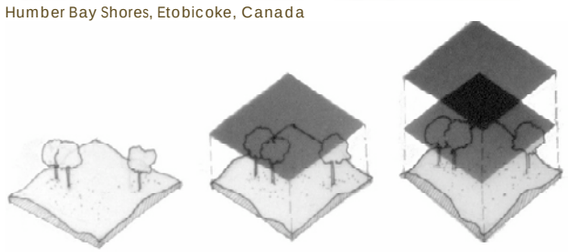
Michigan Avenue, Chicago, IL

Pedestrian activity, Toronto, Canada

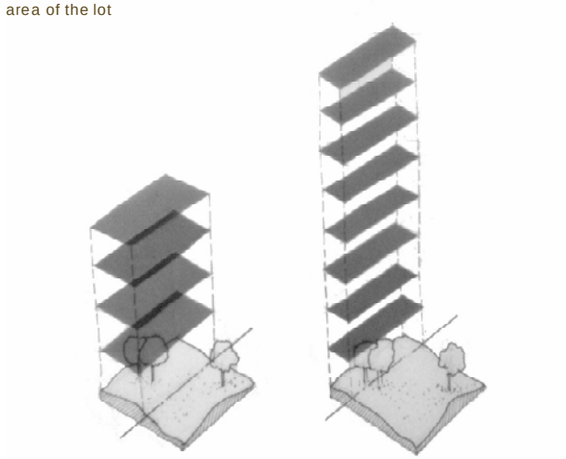
Non-Mandatory

DOA 1 - Design Guidelines

Humber Bay Shores, Etobicoke, Canada



Site, FAR of 1.0 means that the total floor area of a building is one times the gross area of the lot. FAR of 2.0 means the floor area is two times the gross area of the lot



Cover 50% of the lot, at FAR of 2.0 and the building is 4 stories. Cover 25% of the lot at 2.0 and the building is 8 stories.

Urban Corridors and to visually and thematically distinguish the Urban Corridors from one another. In instances where no TIRZ/MMD exists, the City will select the trees that they will plant.

50. Street trees should have a minimum size of 45 gal. and be planted 30' on-center. Trees should be located in open planting pits where space permits and with wells sized at a minimum of 5'x10'. The planting pits should be filled with shrubs, perennials and annual plants. Planting pits should be edged with a low wall and/or fence.

51. Where space is limited, trees should be planted in continuous trenches. The rootball should be protected with a tree grate, ground cover or material such as gravel.

52. Where there is no room for street trees, consider a vertical shade element planted with vines to add special landscape treatment to the street.

53. Coordination of utilities, especially overhead power lines will be required during the design phase of street tree planting.

54. Consider a palette of the street furnishings, newspaper boxes, notice boards, bicycles racks, flower pots, luminaires and poles that will visually and thematically distinguish the each particular Urban Corridor from the others.

55. Concentrate mailboxes, vending machines, trash cans, and recycling bins in single locations to create active public space and minimize visual clutter.

Public Parks

56. Provide public amenities such as washrooms and field house where appropriate.

57. Provide programmed activities for a range of ages and demographics with emphasis on children and youth.

58. Provide a balance of passive and active parkspace and provide for the maximum program flexibility in the design of the parks.

59 Incorporate a greening strategy that includes tree planting and seasonal horticultural displays.

60. Incorporate sustainability practices both in terms of capital projects and operations.

61. Provide wayfinding and program information displays as well as heritage interpretation and public art.

Gateways

62. Gateways shall be either architectural, stand-alone features, or landscape treatments that define the main entrances to the Urban Corridors.

63. Features shall be lit to enhance their legibility at night.

64. The scale of the gateway shall be large enough to be visible from a car at a distance of at least 300'.

65. Gateways shall enhance and not compete with surrounding existing architectural and natural features.

Buildings

66. Corner building designs shall articulate, define and enhance the intersection at which it is located by enhancing the building's presence at each corner.

67. Buildings should 'turn' the corner, i.e. they should have primary, articulated façades towards both streets and should be visually different from adjacent development.

68. Large areas and continuous rows of monotonous and repetitive façades shall be avoided. A more textured architectural quality can be achieved by introducing variation in certain elements of the façade treatment.

69. Variation in three-dimensional elements, such as

DOA 1 - Design Guidelines

Non-Mandatory

balconies, bay windows and porches, cornices, window trim, entrances and the articulation of the building mass, shall be used to create a dynamic façade.

70. Variation and articulation in the building mass including horizontal and vertical setbacks, such as step backs at the upper stories, shall be established.

71. A pedestrian weather protection system including awnings, canopies, colonnades, or front porches along the sidewalk edges and adjacent to the urban squares/plazas and at entrances to buildings shall be considered. The City will promote Temporary or Permanent Encroachment Permits for both signage and awnings.

Signage and Lighting

72. Signage will address the amount and type of illumination, size, materials, typography and design.

73. Signage should be an integral part of the architecture of a building.

74. Signs should be designed to complement the building and enhance the visual appeal of the street.

75. Signs should be designed in consideration of nearby residential uses, in terms of size, materials, and location.

76. The ratio of sign band to building mass should be restricted such that the signage does not dominate the façade.

77. Mobile box signage is not allowed.

78. Neon lights are allowed when they do not dominate the signage and have no negative impacts on nearby residences.

79. Exterior lighting shall be designed to promote pedestrian comfort, safety and provide a high quality ambiance. In addition, accent lighting is required to emphasize built form and landscape elements. Pedestrian scale lighting shall be provided adjacent to streets, walkways, pedestrian routes and in parks and courtyards.

80. Internally lit canopies are strongly discouraged.

81. Commercial façades should be appropriately lit.

82. Pedestrian realm signage and lighting should be coordinated. Pole mounted pedestrian light fixtures with a light source at 12 to 15' high and a spacing of 30 to 50' is recommended.

Mid-Block Pedestrian Connections

83. Mid-block pedestrian connections shall be provided within larger development parcels. These are intended to be designed as pedestrian landscaped lanes and should be lit, landscaped and maintained for public.

84. Mid-block pedestrian connections shall provide a fine grain of pedestrian circulation and an important connection between two streets.

85. Mid-block pedestrian connections shall lead to public destinations such as schools, parks and public transit stations.

86. Mid-block pedestrian connections shall provide an address to individual residential or business frontages along their lengths.

Pedestrian weather protection, Bethesda, ML

Signs, Winter Park, CO

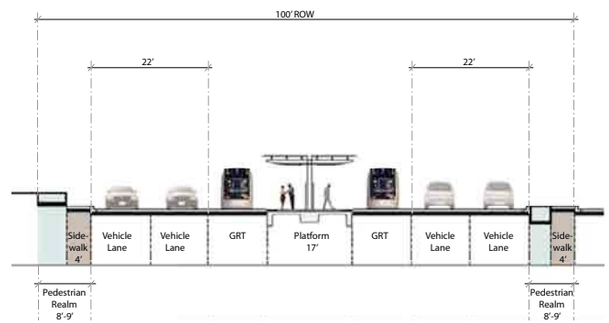
Mid-block pedestrian connection, Houston, TX

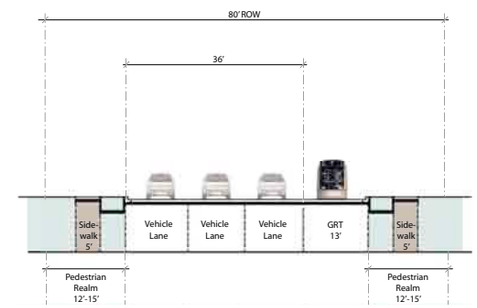
D2.5.1.a
Pedestrian Character Transit Street

To better understand the urban design impact of the new transit on the existing streetscapes, sections have been developed through various locations along the Main Street Corridor, illustrating the existing condition of the street from the face of buildings on each side. A section showing the new streetscape has been constructed as a comparison.

The sections have been selected to indicate typical conditions on the Transit Street to show the impact of the LRT. Additional sections have been developed to illustrate the connecting streets and indicate both existing conditions and proposed improvements with a high level of attention to the pedestrian realm. The importance of these streets as primary pedestrian ways cannot be over stated. These streets are envisioned as the principle links between the Transit Street and the surrounding neighborhoods, as well as the location of bus routes.

The sections that illustrate the Transit Street conditions have been taken at Greenbriar and Smithland as well as at Fannin Streets where it meets Southmore Street. The existing conditions for the Main Street Corridor are different in that transit already exists. These two conditions illustrate the street condition where transit is at the center of the street as in Greenbriar/Smithland or at the outside edge in a one-way condition as on Fanin. The sections illustrate the impact of the proposed pedestrian realm in this Corridor. They show the importance of a consistent pedestrian realm, with buildings at its edge, to generate a healthy pedestrian environment. The sections indicate a 15' pedestrian realm. However there are locations in the Corridor where that has been expanded with a wider sidewalk. Guidelines suggest a build-within line that allows for more setback from the curb.



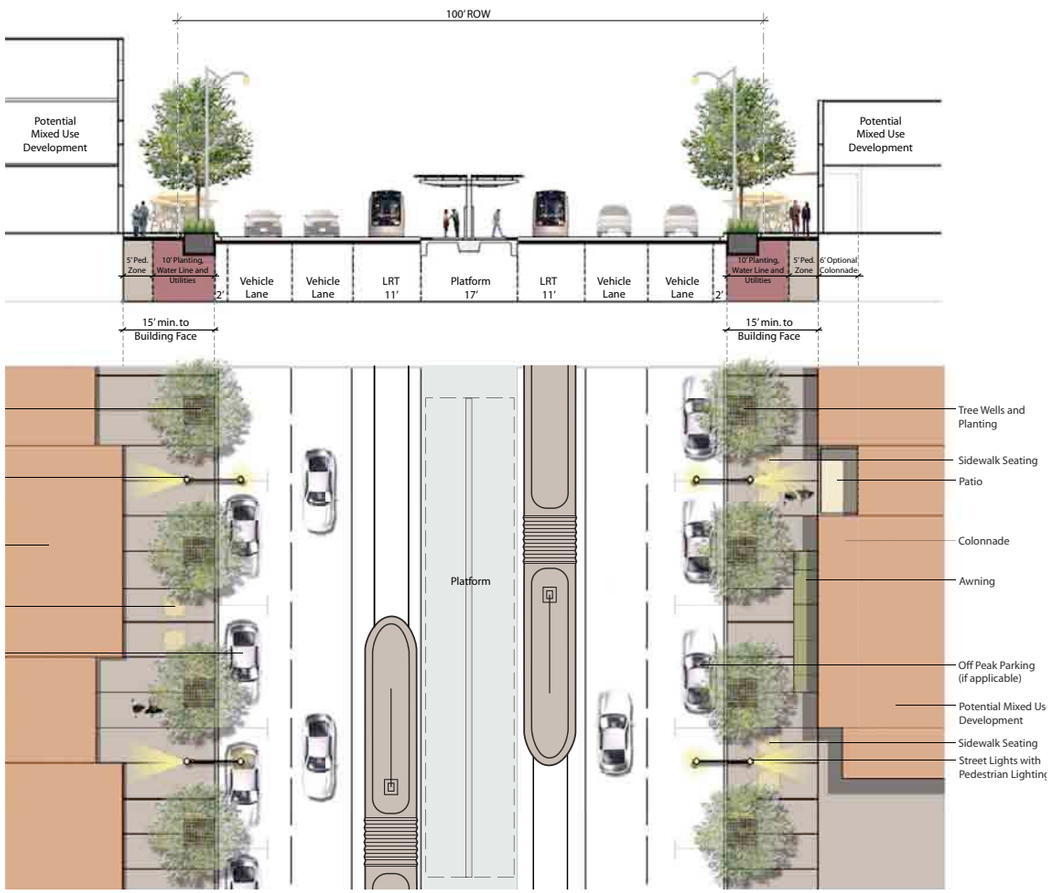


Main St. Corridor existing conditions w/ transit platform- Greenbriar at Smithland

Main St. existing conditions- Fannin St. at Southmore St.

DOA 1 - Pedestrian Character Transit Street, Offset Station Platforms

Main Street



Main St. Corridor proposed section with transit platform- Greenbriar St. at Smithland Station

Main St. Corridor proposed section- Fannin St. at Southmore St.

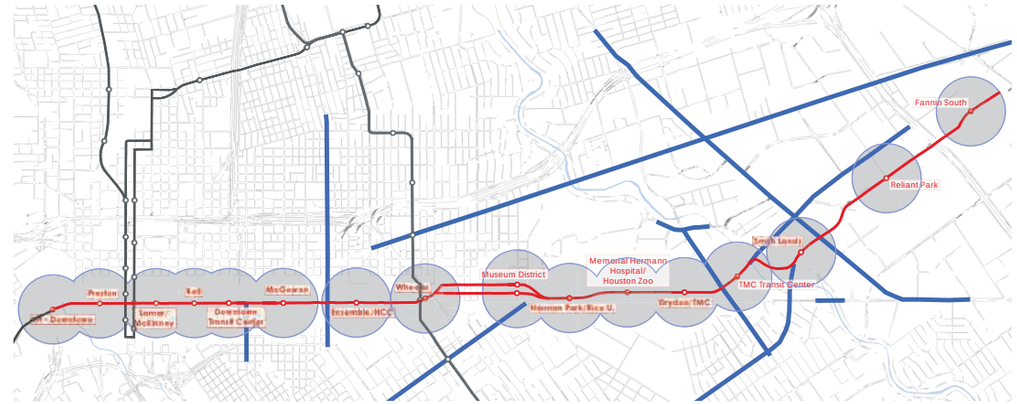
D2.5.1.b
Pedestrian Character Major Thoroughfare

87. The hard surface of the sidewalk (the pedestrian realm) shall be a minimum of 15' wide, measured from the back-of-curb to the main front wall and/or exterior side wall of any adjacent building. This requirement may include components of the public right-of-way and/or private lands, as described in the discussion of the build-within zone.

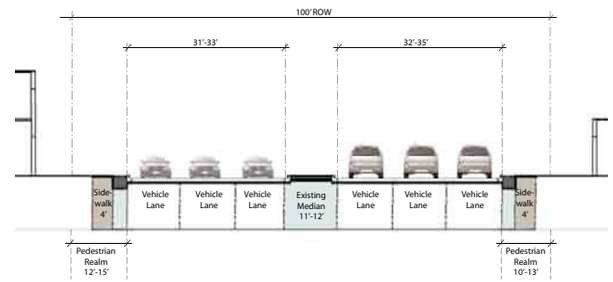
88. The design of the 15' pedestrian realm shall include a "furnishing zone" for utilities, street furniture and street lighting adjacent to the curb, and a minimum 7', 6" unimpeded pedestrian sidewalk.

89. At all street intersections there shall be provisions for pedestrian crossings of the transit facility, regardless of whether or not the intersection is signalized. In addition, provisions for mid-block pedestrian crossings must be considered at intervals of approximately 300'. There shall never be a condition where distances between pedestrian crossings of the facility exceed 600'. Countdown pedestrian head signals shall be provided for at all signalized crossings.

90. It is understood that the development of the required 15' pedestrian realm will occur over a long period of time, in conjunction with private sector redevelopment projects. In the interim, the City should build a connected sidewalk on the public component of the right-of-way concurrent with the development of the transit facilities. The maximum width of the pedestrian realm in this interim condition shall be 15', to be measured from the back-of-curb to the edge of the right-of-way.



Pedestrian Character Major Thoroughfares



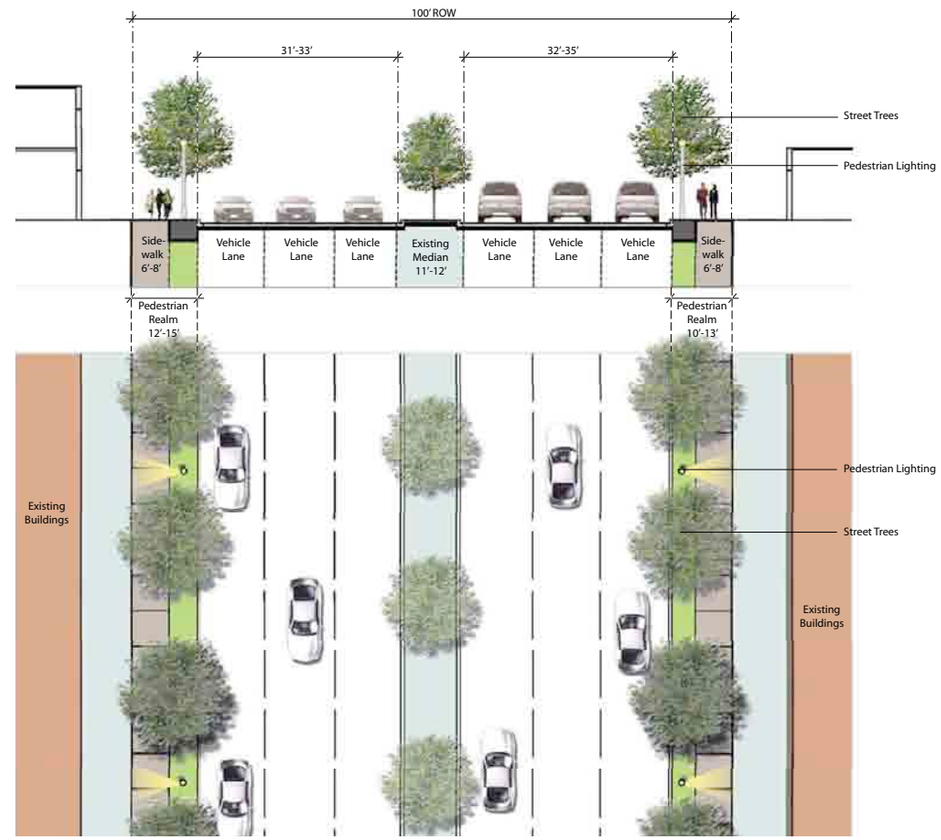
Main St. Corridor existing conditions- Old Spanish Trail

DOA 1 - Pedestrian Character Major Thoroughfare, Commercial

Main Street

Major Thoroughfare rights-of-way are typically 80 to 100', and include 48' of pavement divided by a median of 14 to 32'. Rarely has a connected sidewalk system been provided. Major Thoroughfares that intersect with the Transit Street have been identified as Pedestrian Character Major Thoroughfares because they have the potential to provide a crucial connection from area focal points, such as neighborhoods and schools, to transit stations. A continuous and connected sidewalk system been provided. A prototype street cross section indicates the following:

Main St. Corridor proposed section- Old Spanish Trail (Only in designated redevelopment areas)



Main St. Corridor proposed section- Old Spanish Trail

D2.5.1.c
Pedestrian Character Major Collector

91. The pedestrian realm shall be a minimum of 8' wide, measured from the back-of-curb to edge of the right-of-way.

92. The pedestrian realm shall include a minimum 6' wide sidewalk measured from the edge of the right-of-way. The sidewalk shall be continuous and extend across driveways.

93. The pedestrian realm shall include a planted boulevard with street trees next to the curb.

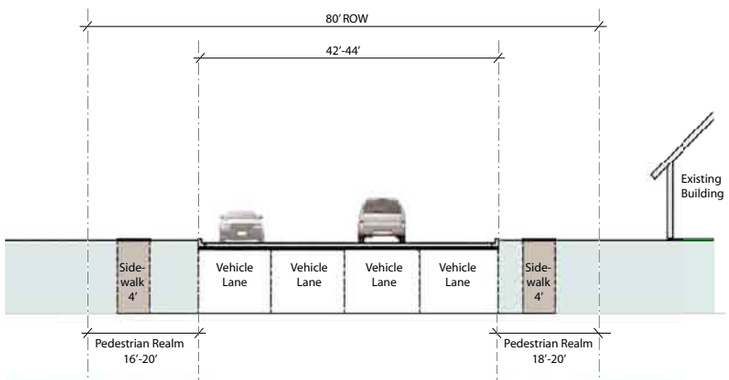
94. The planted boulevard should also be the location for utility poles, placed on the same alignment as the street trees.

Pedestrian Character Major Collector

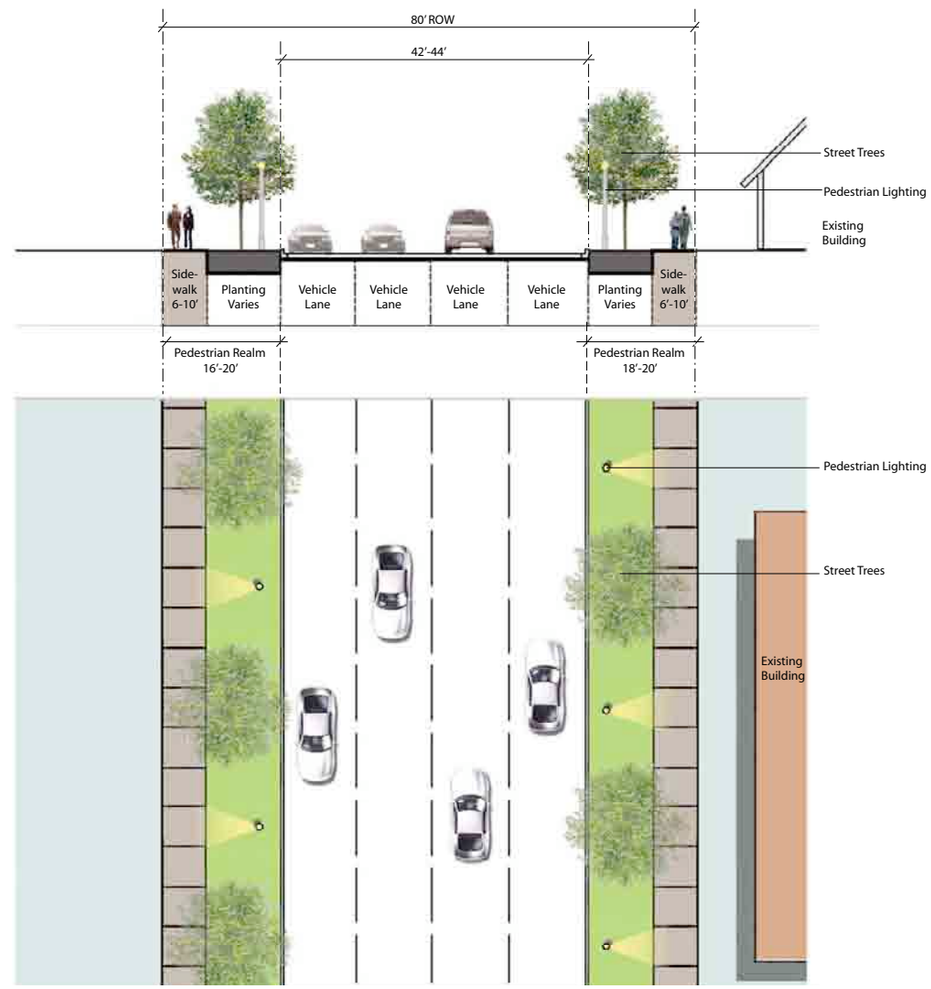
Major Collectors range from 60 - 80', and include 44' of pavement, and ditches on both sides. Rarely is a continuous and connected sidewalk system provided. McGowen has been identified as a Pedestrian Character Major Collector because it is an important parallel street to the Transit Street and edge to neighborhoods. A prototype street cross section indicates the condition:

DOA 1 - Pedestrian Character Major Collector

Main Street



Main St. Corridor existing conditions- McGowen St.



Main St. Corridor proposed section- McGowen St.

D2.5.1.d
Pedestrian Character Local Street

95. The pedestrian realm shall be a minimum of 19' wide, measured from the back-of-curb or the edge of the outside vehicle lane to the edge of the right-of-way.

96. The pedestrian realm shall include a minimum 6' wide sidewalk. The sidewalk shall be continuous and extend across driveways.

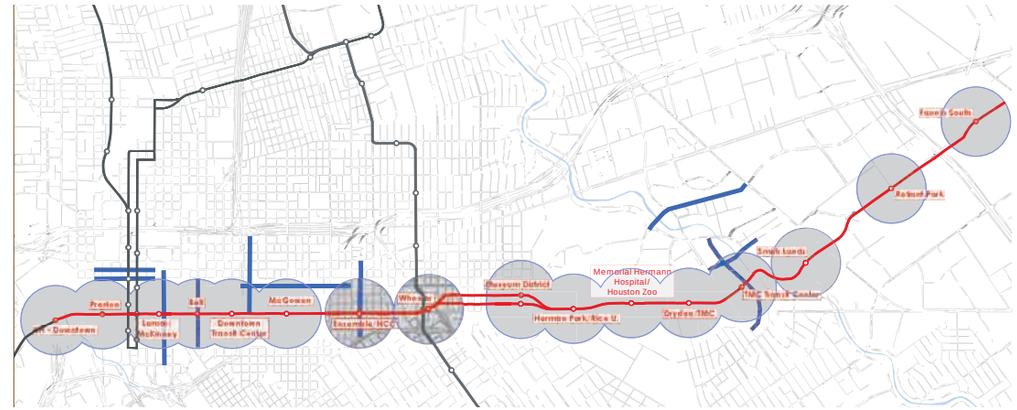
97. On Pedestrian Character Local Streets with curbs, the pedestrian realm shall include a planted boulevard with street trees next to the curb.

98. The planted boulevard shall also be the location for utility poles, placed on the same alignment as the street trees.

99. On Pedestrian Character Local Streets with road side ditches, the tree shall be planted on the outside edge of the ditch adjacent to the sidewalk.

100. On Pedestrian Character Local Streets with road side ditches, utility poles shall be placed adjacent to the edge of the right-of-way.

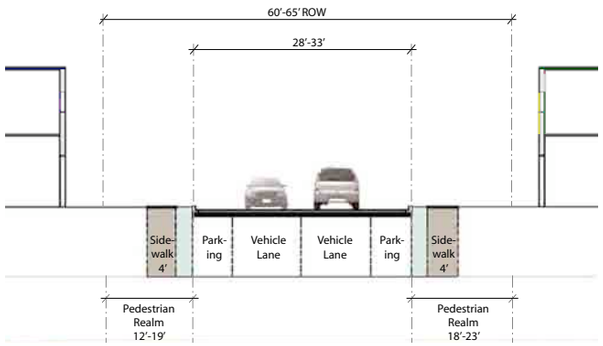
Local street rights-of-way are typically 60', and include 22' of pavement. Some local streets have ditches on both sides. Rarely are sidewalks provided. Some local streets that intersect with the Transit Street have been identified as Pedestrian Character Local Streets because they have the potential to provide a crucial connection between the transit stations and a local pedestrian traffic generator, such as a school, recreation center, public park or place of worship. A prototype street cross section for a Pedestrian Character Local Street is shown here:



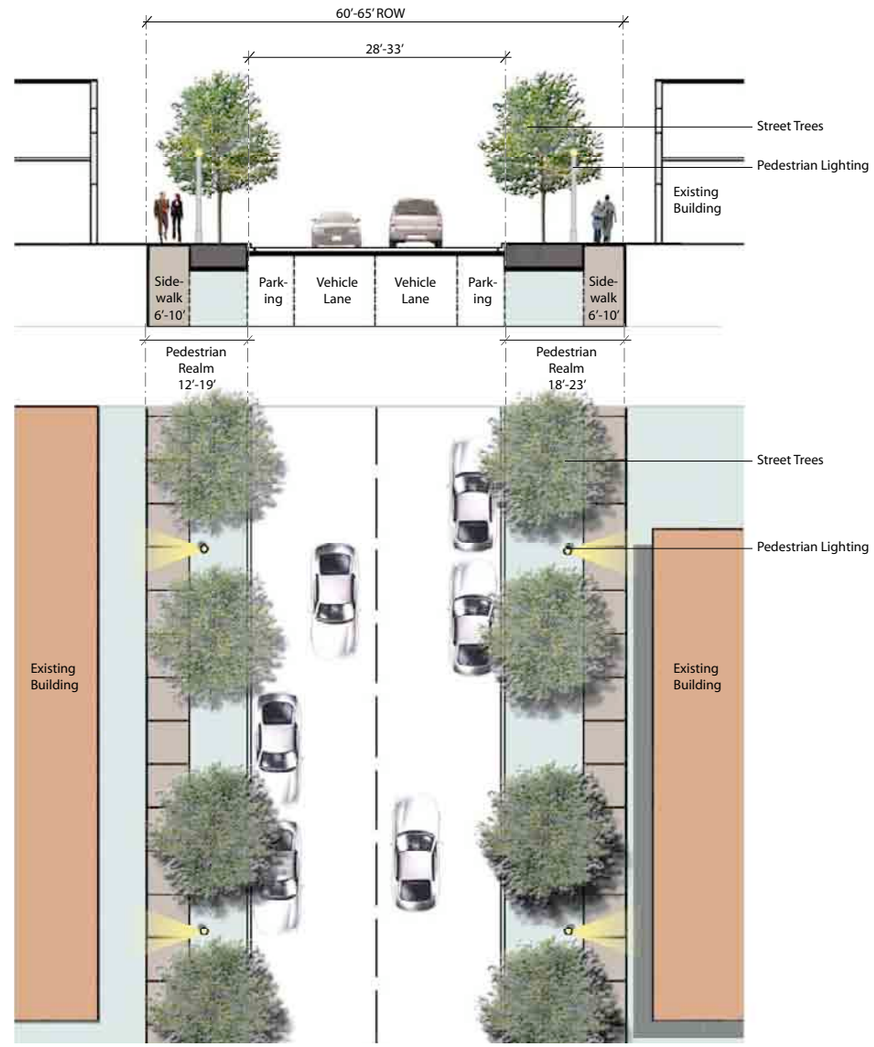
Pedestrian Character Local Street

Pedestrian Character Local Street Cross Section/Plan

Main Street



Main St. Corridor existing conditions- Berry St.



Main St. Corridor proposed section- Berry St.

Non-Mandatory

DOA 1 - Design Guidelines

Engineering / Infrastructure

101. The width of travel lanes along streets with transit should generally be 10-11' in width,

102. Alleys should be designed to provide a 12'-0" paved surface,

103. No access should be allowed from the street for new developments fronting onto the street with transit,

104. All new development fronting on to streets with transit should indicated space for the provision of alleys or access to the site from side streets.

105. A plan for access to sites fronting onto the Transit Street should be developed by the proponent before construction of the Transit Line showing the following:

- The preferred location for access into site along the line.
- A phasing plan for combined access over time.
- A phasing plan for the implementation of alleys or service lanes.

106. Provision for crosswalks between stations should be an integral part of the design of the streets with transit. The maximum distance between a station and a crosswalk shall be 1/4 of a mile.

107. The radius of corner conditions should be determined with the pedestrian in mind. Tighter radii corners slow traffic speeds and protect pedestrians.

- Along the streets with transit corner radii for through streets should be no more then a 25'-0" radius.
- For non-through streets intersecting the Transit Street corner, radii should be reduced to 20'-0".

108. Bicycle lanes should be explored as part of the design, access and phasing plans for the Corridor streets. Where there is not enough room for bike lanes on transit streets, they should be part of the design of the connector streets that access stations.

109. Infrastructure services need to be developed with future intensification of the corridors in mind,

110. Infrastructure should be implemented as transit is being built.

111. The implementation and design of infrastructure should be carried out comprehensively by including all departments of the City, as well as utility providers.

112. All utilities should be buried along the corridors.

113. Consideration should be given to burying utilities under alleys.

114. Where it is impossible to bury utilities, the location of above ground components must be coordinated with the design of the pedestrian realm following the following guidelines:

- Utility poles and transformers shall be located where they do not impact on the movement of pedestrians.
- Utility poles and transformers shall be located according to an overall plan for the entire Corridor.
- The form and design of above grade components to be approved by the City and Metro.

115. Accessibility should be designed into all sidewalk conditions along the corridors.

D2.5.2
Development Opportunity Area 2 Downtown

Guidelines within the Development Opportunity Area 2 – Downtown include a combination of mandatory development requirements and optional design guides.

Mandatory

Mandatory Development Requirements within the defined Development Opportunity Area 2.

Statement of Application: Applies everywhere within the defined Development Opportunity Area 2 - Downtown

Pedestrian Realm

1. All buildings, with the exception of street facing townhouses, shall be developed with a substantial portion of their front and exterior side façades between 15 and 25' of the back-of-curb. It is understood that where a parcel has three sides abutting a public street, the build-within concept may not be achieved on the third side.
2. In all Transit Street Configurations, 15' from the back-of-curb is required for the pedestrian realm.
3. On all lands fronting onto a public street, a Major Thoroughfare and/or a Major Collector, the minimum built frontage requirement shall be 75% of the parcel frontage and shall be occupied by the main front wall of a building within the build-within zone.
4. Notwithstanding the requirements for a minimum built frontage, where a publicly accessible and usable open space is provided abutting a front and/or exterior side parcel line, the frontage occupied by the publicly accessible and usable open space shall be counted toward the minimum built frontage requirement.
5. A minimum of 75% of the main front wall shall be at grade and, on a corner parcel, an exterior side wall at grade of any non-residential building shall consist of windows and entranceways that facilitate visibility into the building.
6. The City shall not accept cash-in-lieu of required street trees, unless a substantiated technical reason is provided that precludes street tree planting. Where cash-in-lieu of street trees is accepted, the monies received shall be utilized in coordination with the Parks and Recreation Master Plan to enhance tree cover in a local public park, or along the Transit Street within 1/4 of a mile of the development site from which the cash-in-lieu of street trees was accepted.

Development Blocks

7. For all large scale Transit Oriented Development projects (defined as projects on development blocks or parcels that are greater than 5 acres in size), the maximum development block or parcel size shall be approximately 5 acres in area. In all cases, there shall be no minimum development block or parcel area.
8. No development block or parcel frontage on a street shall exceed 600'. In all cases, the minimum development block or parcel frontage shall be 25'.
9. Large scale Transit Oriented Development projects shall provide public streets, or publicly accessible private streets, to subdivide any development block or parcel greater than 5 acres in size into smaller development blocks or parcels in accordance with this policy.

Buildings

10. Buildings of up to three stories may be built with zero setbacks to interior side parcel lines. Exterior side yards shall conform to the described build-within zones.
11. Buildings above three stories may include a zero interior side yard setback for the base building of three stories, but building side walls must be set back a minimum of 10' from the interior side yards for that component of the building above three stories.
12. The City will encourage a transitional rear alley or easement process, coupled with access management from pedestrian and transit streets, on a block-by-block basis, where possible and appropriate.

Encroachments

13. Permanent encroachments shall be considered for permitting on a site-by-site basis, subject to design performance standards (to be developed) that consider such features as shade / weather protection, pedestrian clear zone width, space for street tree canopy, right-of-way proportions, utility clearances, etc.
14. The amount of any permitted encroachment shall be established by the City on a site-by-site basis, and in consideration of the following criteria: the encroachment enhances pedestrian comfort by providing shade and/or protection from the rain; and, the encroachment does not impede pedestrian movement, and maintains an unobstructed sidewalk area of a minimum width of 5'.

Non-Mandatory

Non-Mandatory Development Guidelines within the defined Development Opportunity Area 2.

Pedestrian Realm

15. Buildings shall be connected to the street - by proximity, by the location of windows and entranceways, and the level of architectural detail.

16. Buildings shall be sited and organized to create a street space scaled to the pedestrian, and organized to present an appropriate façade to all adjacent streets to provide interest and comfort at ground level for pedestrians.

17. Main building entrances shall, wherever possible, be oriented toward adjacent streets to provide convenient access to pedestrians and public transit; buildings, and their main public entrances, shall be located close to the front and exterior side property lines, on-street parking, and the public sidewalk.

18. Buildings are to be generally sited parallel to the public street and along the edges of parks and open spaces. The public faces of these buildings are to align with neighboring buildings in a manner that defines these spaces with a consistent building face lining the street.

19. Non-residential buildings shall, to the greatest extent possible, front onto adjacent streets, be flush with grade and provide an active use at grade in order to promote pedestrian activity.

20. Buildings shall provide active façades that include windows and entry features and, where appropriate, outdoor cafés and restaurants, community services, retail stores and display windows.

21. Street tree planting should form a continuous canopy along the street. Tree species should be selected by the applicable TIRZ/MMD to reinforce the role of the various street hierarchies within the Urban Corridors and to visually and thematically distinguish the Urban Corridors from one another. In instances where no TIRZ/MMD exists, the City will select the trees that they will plant.

22. Street trees should have a minimum size of 45 gal. and be planted 30' on-center. Trees should be located in open planting pits where space permits and with wells sized at a minimum of 5'x10'. The planting pits should be filled with shrubs, perennials and annual plants. Planting pits should be edged with a low wall and/or fence.

23. Where space is limited, trees should be planted in continuous trenches. The rootball should be protected with a tree grate, ground cover or material such as gravel.

24. Where there is no room for street trees, consider a vertical shade element planted with vines to add special landscape treatment to the street.

25. Coordination of utilities, especially overhead power lines will be required during the design phase of street tree planting.

26. Consider a palette of the street furnishings, newspaper boxes, notice boards, bicycles racks, flower pots, luminaires and poles that will visually and thematically distinguish the each particular Urban Corridor from the others.

27. Concentrate mailboxes, vending machines, trash cans, and recycling bins in single locations to create active public space and minimize visual clutter.

Public Parks

28. Provide public amenities such as washrooms and field house where appropriate.

29. Provide programmed activities for a range of ages and demographics with emphasis on children and youth.

30. Provide a balance of passive and active park space and provide for the maximum program flexibility in the design of the parks.

31. Incorporate a greening strategy that includes tree planting and seasonal horticultural displays.

32. Incorporate sustainability practices both in terms of capital projects and operations.

33. Provide wayfinding and program information displays as well as heritage interpretation and public art.

Gateways

34. Gateways shall be either architectural, stand-alone features, or landscape treatments that define the main entrances to the Urban Corridors.

35. Features shall be lit to enhance their legibility at night.

36. The scale of the gateway shall be large enough to be visible from a car at a distance of at least 300'.

37. Gateways shall enhance and not compete with surrounding existing architectural and natural features.

Buildings

38. The minimum density for any Transit Oriented Development project shall be a Floor Area Ratio of 1.75.

39. There shall be no specified maximum density.

40. The minimum height for any Transit Oriented Development building shall be three stories, or 27', whichever is greater. Buildings on corner sites shall be a minimum of four stories, or 36', whichever is greater.

DOA 2 - Downtown

Non-Mandatory

41. There shall be no specific height limit.

42. Corner building designs shall articulate, define and enhance the intersection at which it is located by enhancing the building's presence at each corner.

43. Buildings should 'turn' the corner, i.e. they should have primary, articulated façades towards both streets and should be visually different from adjacent development.

44. Large areas and continuous rows of monotonous and repetitive façades shall be avoided. A more textured architectural quality can be achieved by introducing variation in certain elements of the façade treatment.

45. Variation in three-dimensional elements, such as balconies, bay windows and porches, cornices, window trim, entrances and the articulation of the building mass, shall be used to create a dynamic façade.

46. Variation and articulation in the building mass including horizontal and vertical setbacks, such as step backs at the upper stories, shall be established.

47. A pedestrian weather protection system including awnings, canopies, colonnades, or front porches along the sidewalk edges and adjacent to the urban squares/plazas and at entrances to buildings shall be considered. The City will promote Temporary or Permanent Encroachment Permits for both signage and awnings.

Signage

48. Signage will address the amount and type of illumination, size, materials, typography and design.

49. Signage should be an integral part of the architecture of a building.

50. Signs should be designed to complement the building and enhance the visual appeal of the street.

51. Signs should be designed in consideration of nearby residential uses, in terms of size, materials, and location.

52. The ratio of sign band to building mass should be restricted such that the signage does not dominate the façade.

53. Mobile box signage is not allowed.

54. Neon lights are allowed when they do not dominate the signage and have no negative impacts on nearby residences.

55. Exterior lighting shall be designed to promote pedestrian comfort, safety and provide a high quality ambiance. In addition, accent lighting is required to emphasize built form and landscape elements. Pedestrian scale lighting shall be provided adjacent to streets, walkways, pedestrian routes and in parks and courtyards.

56. Internally lit canopies are strongly discouraged.

57. Commercial façades should be appropriately lit.

58. Pedestrian realm signage and lighting should be coordinated. Pole mounted pedestrian light fixtures with a light source at 12 to 15' high and a spacing of 30 to 50' is recommended.

Mid-Block Pedestrian Connections

59. Mid-block pedestrian connections shall be provided within larger development parcels. These are intended to be designed as pedestrian landscaped lanes and should be lit, landscaped and maintained for public.

60. Mid-block pedestrian connections shall provide a fine grain of pedestrian circulation and an important connection between two streets.

61. Mid-block pedestrian connections shall lead to public destinations such as schools, parks and public transit stations.

62. Mid-block pedestrian connections shall provide an address to individual residential or business frontages along their lengths.

Parking

63. General public parking (surface lots and / or structured parking facilities) to serve TOD areas will be provided to augment the supply of parking.

64. On-street parking shall be promoted within all of the Urban Corridors.

65 The City shall pursue opportunities for the establishment of on-street parking in partnership with adjacent landowners where the spaces are provided on a combination of public land and private property, with public access to the parking spaces secured through agreements with the City.

66. Surface parking, loading areas, drive-through lanes and servicing facilities shall not be permitted in front of Transit Oriented Development buildings. Surface parking, drive-through lanes and/or servicing facilities may be permitted in an interior side yards, and are permitted within the rear yard.

67. Surface parking, loading areas, drive-through lanes and servicing facilities, where permitted, shall be appropriately screened from view from the street. Surface parking lots shall respect the build-within zones. Where surface parking must be provided, the visual impact of large surface lots shall be mitigated by a combination of setbacks, and significant landscaping including: pavement treatments, low walls or decorative fencing, landscape, trees and lighting throughout parking lots and along the edges.

68. Parking is encouraged to be provided in structures, either above, or where possible, below grade. Where a parking structure is above grade, it shall

include a façade with active uses at grade and appropriate architectural articulation. Entrances to below grade or structured parking and service areas should occur within the building.

69. Access to parking and servicing areas should occur off side streets or service lanes and to the side or rear of buildings, where possible.

70. It is an objective of the City to limit access driveways to individual sites adjacent to the Transit Street. The City shall encourage shared access driveways and, preferably, shared rear lane access for all Transit Oriented Development. Where new development is proposed, the City shall require a minimum of 100' between access driveways onto the Transit Streets.

Pedestrian Character Major Thoroughfare

71. The hard surface of the sidewalk (the pedestrian realm) shall be a minimum of 15' wide, measured from the back-of-curb to the main front wall and/or exterior side wall of any adjacent building. This requirement may include components of the public right-of-way and/or private lands, as described in the discussion of the build-within zone.

72. The design of the 15' pedestrian realm shall include a "furnishing zone" for utilities, street furniture and street lighting adjacent to the curb, and a minimum 7', 6" unimpeded pedestrian sidewalk.

73. At all street intersections there shall be provisions for pedestrian crossings of the transit facility, regardless of whether or not the intersection is signalized. In addition, provisions for mid-block pedestrian crossings must be considered at intervals of approximately 300'. There shall never be a condition where distances between pedestrian crossings of the facility exceed 600'. Countdown pedestrian head signals shall be provided for at all signalized crossings.

74. It is understood that the development of the required 15' pedestrian realm will occur over a long period of time, in conjunction with private sector redevelopment projects. In the interim, the City should build a connected sidewalk on the public component of the right-of-way concurrent with the development of the transit facilities. The maximum width of the pedestrian realm in this interim condition shall be 15', to be measured from the back-of-curb to the edge of the right-of-way.

Pedestrian Character Major Collector

75. The pedestrian realm shall be a minimum of 8' wide, measured from the back-of-curb to edge of the right-of-way.

76. The pedestrian realm shall include a minimum 6' wide sidewalk measured from the edge of the right-of-way. The sidewalk shall be continuous and extend across driveways.

77. The pedestrian realm shall include a planted boulevard with street trees next to the curb.

78. The planted boulevard should also be the location for utility poles, placed on the same alignment as the street trees.

Pedestrian Character Local Street

79. The pedestrian realm shall be a minimum of 19' wide, measured from the back-of-curb or the edge of the outside vehicle lane to the edge of the right-of-way.

80. The pedestrian realm shall include a minimum 6' wide sidewalk. The sidewalk shall be continuous and extend across driveways.

81. On Pedestrian Character Local Streets with curbs, the pedestrian realm shall include a planted boulevard with street trees next to the curb.

82. The planted boulevard shall also be the location for utility poles, placed on the same alignment as the street trees.

83. On Pedestrian Character Local Streets with road side ditches, the tree shall be planted on the outside edge of the ditch adjacent to the sidewalk.

84. On Pedestrian Character Local Streets with road side ditches, utility poles shall be placed adjacent to the edge of the right-of-way.

Engineering/Infrastructure

85. The width of travel lanes along streets with transit should generally be 10-11' in width,

86. Alleys should be designed to provide an 12'-0" paved surface,

87. No access should be allowed from the street for new developments fronting onto the street with transit,

88. All new development fronting on to streets with transit should indicated space for the provision of alleys or access to the site from side streets.

89. A plan for access to sites fronting onto the Transit Street should be developed by the proponent before construction of the Transit Line showing the following:

- The preferred location for access into site along the line.
- A phasing plan for combined access over time.
- A phasing plan for the implementation of alleys or service lanes.

90. Provision for cross walks between stations should be an integral part of the design of the streets with transit. The maximum distance between a Station and a crosswalk shall be 1/4 of a mile.

91. The radius of corner conditions should be determined with the pedestrian in mind. Tighter radii corners slow traffic speeds and protect pedestrians.

DOA 2 - Downtown

Non-Mandatory

- Along the streets with transit corner radii for through streets should be no more then a 25'-0" radius.
- For non-through streets intersecting the Transit Street corner, radii should be reduced to 20'-0".

92. Bicycle lanes should be explored as part of the design, access and phasing plans for the Corridor streets. Where there is not enough room for bike lanes on Transit Streets, they should be part of the design of the connector streets that access Stations.

93. Infrastructure services need to be developed with future intensification of the Corridor in mind,

94. Infrastructure should be implemented as transit is being built.

95. The implementation and design of infrastructure should be carried out comprehensively by including all departments of the City, as well as utility providers.

96. All utilities should be buried along the Corridor.

97. Consideration should be given to burying utilities under alleys.

98. Where it is impossible to bury utilities, the location of above ground components must be coordinated with the design of the pedestrian realm following the following guidelines:

- Utility poles and transformers shall be located where they do not impact on the movement of pedestrians.
- Utility poles and transformers shall be located according to an overall plan for the entire Corridor.
- The form and design of above grade components to be approved by the City and Metro.

99. Accessibility should be designed into all sidewalk conditions along the Corridor.